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JEFFRIES WYMAN

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FIFTY years ago there died in Bethlehem, New Hampshire, the "ablest anatomist this country has yet produced." It makes, as Emerson remarked, a great difference to the force of any sentence whether there be a man behind it or no. Mall stands behind the judgment in this instance. When Owen referred to "Dr. Wyman, the accomplished anatomical professor at Boston" and Huxley characterized him as "the excellent American anatomist"—when Darwin cited observations "on the high authority of Professor Wyman"—it was not the play of irresponsible shadows. A man of that mark deserves to be remembered. The anniversaries of his fellow professors, Agassiz and Holmes, have been fittingly celebrated. Now we seek out the quiet scholar of whom Holmes lightly recorded that he would have been more famous if less modest. Our purpose shall be to suggest the scientific environment in which he worked, and to see in some perspective his contributions to anatomy.

This Massachusetts boy, the son of the village doctor, graduated from Harvard College when not quite nineteen. Quoting a fragment of manuscript of unknown authorship, found among his papers:—

> In 1837 he received the degree of Doctor in Medicine in the Medical Department of Harvard University. He then cast about for a field in which to practise his profession, and visited Portsmouth, N. H., which fortunately for his prospects in his favorite studies did not afford a favorable field. He returned to Boston, and established himself in an office at the corner of Washington and Harvard Sts., and was soon after appointed Demonstrator of Anatomy under Dr. John C. Warren, then Hersey Professor. Here he continued living on very small means, boarding himself, cooking his food in his own room; for his office of Demonstrator afforded but little towards his support, and he was determined to relieve his father of further expenses for he had already done for his two sons all he could afford, and indeed could not have accomplished his object of giving them a college education had it not been for further aid received through the benevolence of a Boston merchant.

To obtain a livelihood, as recorded in the Proceedings of the American Academy, he became a member of the Boston Fire Department, under an appointment of Mayor Eliot, dated Sept. 1, 1838. At that time he lived, as Holmes says, "with an economy which it would be painful to think of, if we did not remember how many of the heroes of knowledge have eaten the bread of poverty, and found in it the nourishment of steady endeavor and serene self-possession."

Wyman, like Von Baer at this time of life, was in a quandary. Both had known an early love of nature "free from hope of position, power, or profit"; and neither of these able and guileless young physicians had the slightest inclination to practise. Wyman had completed an undergraduate service at the Massachusetts General Hospital, but in June, 1837—the very month in which he received his degree—his real interest was in the development of frogs. He drew them very handsomely in his note-book, already well filled with sketches of whatever seemed curious in animal structure. In July he painted a mud turtle (its source is not recorded); in August, the worm Diplostomum; and in September he was still sketching when his first contribution appeared in print. It was a note "On the indistinctness of images formed from oblique rays of light," published in this JOURNAL (vol. 17, p. 153-155). He treated the problem of vision as one in pure physics, in utter disregard of retinal structure, although Soemmerring had already demonstrated the macula lutea and its central "foramen," and Bichat had confirmed these findings. But Wyman makes the interesting suggestion that owing to the curvature of the retina, all images not in the axis of vision are out of focus.

His next occupation and financial resource were hardly possible outside of Boston—the city where long ago, as a measure of public health, the legislature sought to restrain the people from excessive attendance at lectures.* In Wyman's time natural history with us was a popular subject. Some of the most vital problems with which he was later to deal had been discussed in "The Philosophy of Natural History," by Smellie of Edinburgh, which "with various additions and alterations by John Ware, M. D.," Professor of Theory and Practice at Harvard, had passed its fifth Boston edition. The nature of the alterations is suggested in the following example. Smellie, in 1790, had written:—

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*In Oct., 1633. Records of the Governor and Company of the Massachusetts Bay. The order of the General Court was so repugnant that it was repealed in May, 1640.

> In the chain of animals man is unquestionably the chief or capital link. . . . From him all the other links descend by almost imperceptible gradations . . . from man to the minutest animalcule. Man, in his lowest condition, is evidently linked, both in the form of his body and the capacity of his mind, to the large and small orang-outangs. From the orang-outangs and apes to the baboons the interval is hardly perceptible. The true apes have no tails and those of the baboons are very short. The monkeys, who form the next link, have long tails, and terminate this partial chain of imitative animals, which have such a detestable resemblance to the human frame and manners.

Ware omitted all this and said:—

> It requires only a small share of knowledge . . . to convince any one of the folly and absurdity of such speculations . . . There is a greater difference between man and those species which are next below him than there is between any other two species which rank next to each other in the whole animal kingdom. So that there is, in truth, no more reason for saying that man is only an improved and educated ape, than there is for saying that a bee is only an improved and educated fly, a cow an improved sheep, or a horse a perfected ass. . . . In the families of bats, of carnivorous and of gnawing animals, there [also] is a gradual departure in form and structure from that of the original standard, man.[*]

Ware's book was a required study for seniors in Harvard College when Wyman took the course, and was a text in "female seminaries" and academies in 1840-41, when he gave his twelve Lowell Institute Lectures on Comparative Anatomy. Each lecture was repeated to a second audience, like those in most of the courses at that time. No record of them remains, but whether erudite or otherwise, they provided the means for immediate study in Europe. In May, 1841, Wyman arrived in Paris.

The school of Cuvier must have been the attraction, for his was a great name in America, and Wyman thought that through him "zoology became a science." It was nine years since Cuvier had died, but his collaborators and successors, De Blainville, Duméril, Flourens and Valenciennes, were eminent zoologists and comparative anatomists. Wyman is said to have attended lectures by all of them, and those of the younger Isidore St.-Hilaire, and of Milne-Edwards, who was then issuing his "Histoire Naturelle des Crustacés." In the school of medicine he found Magendie, and Longet, whose two volumes, now little read, on the anatomy and physiology of the nervous system, were published in the year of Wyman's return. It is idle to think what might have happened had he studied in Müller's laboratory and learned the methods of the new histology with Henle. Although later he recognized that the cell theory was "analogous to *Gravitation* in Physics, having done more for progress than all other discoveries not excepting *Circulation*,"[*] his own work remains behind with the Owen period. In the summer he journeyed on foot along the Rhine and elsewhere, and at the end of a year was visiting the Hunterian Museum when called home by the approaching death of his father.

Wyman himself was far from strong. Pulmonary disease, always latent and at last fatal, forced him to travel and spend many winters in the south. From 1843 until 1847 he was professor of anatomy and physiology in Richmond, Virginia, lecturing to perhaps seventy medical students. The gross and microscopic anatomy and the function of a part were not separated in Professor Wyman's course, and though he had an abundance of human subjects, particular attention was paid to comparative anatomy for the light it throws on human structure. The medical department of Hampden-Sidney College, in which he taught, announced its advantages for pursuing anatomical science as "unsurpassed by those of any other institution in the country." It is the customary statement of our medical school catalogues, but with Wyman in the chair, there is a fair chance that Hampden-Sidney was right.

When he resigned this professorship in 1847 he was a Fellow of the American Academy, which had published his description of a torpedo, and was a very active member of the Boston Society of Natural History, being its curator of fishes and reptiles. He had presented to the Society some twenty communications, usually recorded in a few lines in the Proceedings, but often published at greater length in Silliman's American Journal of Science. These include accounts of animal parasites, and many descriptions of the dissections which he made incessantly for his museum of comparative anatomy. One was of the trombone-bends of the trachea of the trumpeter swan; another displayed the excavated hyoid apparatus of the howling monkey which can be heard for "half a league." There were two beautifully illustrated anatomical descriptions of snails, and a significant paper "On the microscopic structure of the teeth of the Lepidostei and their analogies with those of the Labyrinthodonts."

Other reports dealt with fossils. During a visit to New York, Dr. Wyman inspected the remains exhibited on Broadway as those of an extinct sea serpent, 114 feet long,—the *Hydrarchos Sillimani*. It is evident, he reports, that these bones never belonged to one and the same individual, and they are those of warm-blooded mammals.*

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[*] "The original standard, man," became "the great standard, man," when Winslow Lewis, Wyman's predecessor as Demonstrator of Anatomy at Harvard, wrote his "Description of a Gibbon" (Boston Journ. Nat. Hist., 1834-1837, vol. 1, p. 32-40). It was an interesting study, with Pendleton lithographs, but it failed to establish *"Hylobates fuscus"* as a valid new species.

[*] Lecture notes, without date, but apparently about 1856.

In 1843, Dr. Wyman presented to the Society letters from its corresponding member, Dr. Thomas S. Savage, a missionary at Cape Palmas, West Africa, describing the habits of the chimpanzee. "It is not unusual," he wrote, "to see the 'old folks' sitting under a tree regaling themselves with fruit and friendly chat, while 'their children' are leaping around them and swinging from branch to branch in boisterous merriment." Rousseau's conjecture of 1755 that such beasts were after all real men dispersed in the woods, never having had any development of their faculties, pales beside these later reports from Africa. Savage continues:—"It is a tradition with the natives generally here that they were once members of their own tribe; that for their depraved habits they were expelled from all human society, and that, through an obstinate indulgence in their vile propensities, they have degenerated into their present state and organization." This organization Wyman described from the specimens Savage provided. Their combined researches Huxley regarded as "very important," not only confirming Owen, but "adding many new details."

Such was Wyman's work until 1847, when he was appointed Hersey Professor of Anatomy in Harvard University. Regarding this appointment, Mall made the following frank comment in his presidential address to the anatomists, meeting in New York in 1906:†

> More than a century ago the status of Anatomy in America compared favorably with that in Europe, but the degeneration of medical education which followed rapidly and successfully pushed Anatomy into an inferior position. This decay in medical instruction reached in America as low a level as the civilized world has perhaps ever seen about the time of our civil war. . . .
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> On account of the low ebb of medical education at the period mentioned, a certain dividing of the ways occurred, best illustrated, perhaps, by what happened at Harvard. At this college there fortunately appeared the ablest anatomist this country has yet produced, but the Medical School saw fit to duplicate his chair for reasons that are not clear to me. There existed in Harvard College and Harvard Medical School, side by side, Jeffries Wyman, the scientific anatomist, with but few students, and Oliver Wendell Holmes, the poet anatomist, with many of them. This unwise arrangement, it seems to me, delayed the revival of sound medical education in this country for a number of years. . . . The loss of the influence of this great philosopher and teacher upon medical students has been one of the misfortunes that medicine in this country has sustained.

Truly yours
J. Wyman

In speaking thus of Wyman, Leidy had not been forgotten. Mall extolled them both as true anatomists, joint leaders of their generation, and worthy of emulation. But Holmes was admirable in other fields than anatomy. Accounted "the best talker ever heard in Boston," one feels in his ready discourse "the temper of a trained though not very learned man of science."* During the thirty-five years of his professorship, while microscopic anatomy abounded in important discoveries, Holmes proposed certain modifications of the instrument, but made with it not a single observation thought worthy of publication in a scientific journal.† And are there any gross anatomical publications of his other than that in the Proceedings of the American Academy (Jan. 28,

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*It was later that Wyman found in the Society's collection the specimen which had been regarded as a young sea serpent, "killed upon the shore by some labouring people of Cape Ann," and thought to be the progeny of the marine monster seen there playing in the sea, a month previously. A committee consisting of Francis C. Gray, Esq., Jacob Bigelow, M. D., Rumford Professor at the Harvard Medical School, and Hon. John Davis, took depositions, credited the story, and named the young animal *Scoliophis atlanticus*. A folding plate, two feet in length, was engraved from a drawing by Dr. Bigelow, and published with a full description (Report of A Committee . . . relative to a large marine animal, etc. Boston, 1817, 56 pp., 2 pls.). Wyman correctly disposed of it as a common black snake with a diseased spine (Proc. Boston Soc. Nat. Hist., 1863, vol. 6, p. 245).

†Anatomical Record, vol. 1, p. 25-26.

*Barrett Wendell. A literary history of America. New York, 1900, p. 410 and 417.

†Holmes thought that Wyman "illustrated rather than mad a principal study of human anatomy" and comments,—"Much as there is to learn in this, there are fresher fields, where labor may be bestowed with larger promise of new facts. . . ." In his lecture, "Border lines of knowledge," Holmes admits for himself a poor showing "in this well-reaped field," but refers to the "nucleated cells found connected with the cancellated structure of the bones, which I first pointed out and had figured in 1847, and have shown yearly from that time to the present." Did these cells belong to the bone or the marrow, and was the figure a wall-chart? No publication on this subject, by Holmes, has been catalogued.

1857) which begins,—"Dr. Holmes said that he had recently observed an unusual anatomical fact, viz. the power of voluntary motion in the ear of man: this is of extremely rare occurrence"? So the anatomists listened to Mall's address with what Holmes calls "oblique emotions."

In 1847, the year of his appointment to the Cambridge professorship, at a meeting of the Boston Society of Natural History, Wyman described for the first time a great ape from Africa, for which he proposed the name *gorilla.* The specimens were thought to be new by Savage, who obtained them and sent them to Wyman for description. Their joint publication (*Boston Journ. Nat. Hist.*, 1847, vol. 5, p. 417-441) was so modestly written by Wyman that his own portion has frequently been attributed to Savage. But the facts are recorded in manuscript, in a book in which Dr. Wyman copied all his correspondence with Owen and others on this subject. It contains the following introductory statement, which has apparently never been printed in full, and it may not be generally known that the gorilla was named and first described in Boston.

TROGLODYTES GORILLA, SAVAGE

HISTORY OF THE DISCOVERY

The existence in Africa of a large ape, which without doubt was the gorilla, was mentioned by Battell,[*] and by Bowdich in his Mission to Ashantee,[†] but it does not appear that either of them saw the animal. In April, 1847, the Rev. J. L. Wilson brought to the notice of Dr. Thomas S. Savage, while the latter was on a visit to Gaboon, the skull of a large ape. Dr. Savage became convinced that it was not known to naturalists, and was able to obtain, through the aid of Mr. Wilson, other crania and various portions of the skeleton, including the pelvis and some of the long bones. He also sent drawings of a male and female skull to Prof. Owen, who satisfied himself from that that the ape in question was not the Pongo of Borneo, but expressed the belief that the crania might prove to be those of an old adult male and female chimpansee. He however threw out the suggestion that as there were two species of apes in Borneo, Africa might also possess two species.

The collections of crania and bones belonging to Mr. Wilson and Dr. Savage were placed by the latter in my hands for description, Dr. Savage reserving for himself an account of the outward characters and of the habits. A joint memoir was presented to the Boston Society of Natural History *August 18th, 1847.*

In the mean time Mr. Samuel Stutchbury, Curator of the Bristol Museum in England, having learned of Dr. Savage his discovery, obtained through Capt. Wagstaff three crania, which he immediately placed in the hands of Prof. Owen for description. An account of them was presented to the Zoological Society of London *February 22, 1848*, six months after our memoir had been read in Boston.

Prof. Owen in a letter to Dr. Savage acknowledges that our description established the specific characters of the gorilla, and that priority belonged to us. Through a vote of the Council of the Zoological Society the osteological characters, as set forth by me, were printed as an appendix to Prof. Owen's memoir. It does not appear however, either in the Proceedings or the Transactions of the Society, at what time our memoir was published, nor that we had anticipated him in our description.

The credit of the discovery clearly belongs to Drs. Wilson and Savage, chiefly to the latter, who first became convinced of the fact that the species was new, and who first brought it to the notice of naturalists. The species therefore stands recorded *Troglodytes gorilla*, Savage.

In the following account the notice of the external characters and habits was prepared by Dr. Savage. The introductory portion and the description of the crania and bones, and also the determination of the differential characters on which the establishment of the species rests, were prepared by me. In view of this last fact Dr. Savage thought, as will be seen in his letter, that the species should stand in my name; but this I declined.

In conversation I had with Dr. A. A. Gould with regard to a suitable name, when I informed him that Hanno stated that the natives called the wild men of Africa Gorillae, he at once suggested the specific name *gorilla*, which was adopted.

In October 1849, Dr. G. A. Perkins brought to me two additional crania which formed the subject of a second memoir.

In 1859 Mr. P. B. Du Chaillu arrived in New York with a large collection of the skins and skeletons of the gorilla. These he kindly placed at my disposal. My notes on his collection were printed in his book of Travels. The account of the dissection of a young gorilla preserved in alcohol and which he presented to me was printed in the Proceedings of the Boston Society of Natural History, Vol. VII, 1860, p. 211, and in Vol. IX, p. 203.

JEFFRIES WYMAN.

Cambridge, June 18, 1866.

As a scientific term, Troglodytes, a dweller in holes or caves, is now restricted to some little wrens to which it was first applied, and it cannot be given to apes. In 1855 Geoffroy proposed the generic name Gorilla, and the species is now correctly known as *Gorilla gorilla* (Savage and Wyman). In the opinion of Dr. G. M. Allen it cannot be ascribed to Savage alone.

Wyman was not always so successful with new species. A manatee from West Africa he named *M. nasutus* on insufficient evidence; but in 1869, he was the first to describe an actual specimen of crocodile from Florida, which he correctly identified as the *C. acutus* of South America.[*]

Not only were Holmes and Wyman appointed professors in 1847, but Agassiz also; and in Cambridge Wyman was overshadowed and totally eclipsed by "the young Swiss savant,"—his senior by seven years. In the winter of 1848-49, first Agassiz and then Wyman delivered a course of twelve lectures at the Lowell Institute. These were reported at length "by the new system of phonography" in the *Daily Traveller*, illustrated by a large number of wood-cuts suggestive of blackboard sketches. The Agassiz lectures on comparative embryology, thus recorded and re-issued in pamphlet form, were described in New York as "a book of wonders," and in this JOURNAL as "a publication which should be in the hands of every person who has a particle of interest in physiology or natural history." Agassiz, whose enthusiasm can still be felt in those newspaper pages, described sections of chick embryos and the transformation of cells with masterly ease, bringing to America the work of the Germans whose boast that "everything great in embryology is from the Fatherland" is not without some basis of reason. From studies of almost incredible range he concluded that "embryology assigns now a value to external forms—not only a value, but a chronological value." He showed that in the structure of the egg all classes of animals have a common starting-point, and was sure that many larvae of worms still passed as adult infusoria. He demonstrated to a delighted audience that the leg of a squirrel and the foot of a robin have originally the same form, being similar to the fins in fishes, and he recognized as obvious "what important consequences such facts must have for the study of zoology."

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[*] Purchas, His Pilgrims. London, 1625. Part II, p. 984.

[†] London, 4to. 1819, p. 440.

[*] Dr. Thomas Barbour finds that Rafinesque first reported the presence of the crocodile in Florida, but had "only a rumor, albeit a correct one. . . . Then came Wyman."

What was left for Wyman after such a course? He chose to lecture on comparative *physiology*, and though it was a very anatomical sort of physiology, he had all the advantage of a subject now so often regarded as superior. Indeed he begins in the stereotyped physiological manner,—"However skilfully the anatomist may dissect, however nicely the microscopist may observe," he cannot hope to attain "the more perfect knowledge" of the physiologist! The nature of living substance, Dutrochet's studies of diffusion and osmosis, the phenomena of respiration and nervous activity were ably presented. One of the lapses into anatomy was in commenting on the statement of Linnaeus that he had been unable to detect any character by which a man could be distinguished from an orang. Wyman knew of several. One of them he described in a separate paper that year, "On the cancellated structure of some of the bones." There is, as he found, a peculiar arrangement of trabeculae in the neck of the femur and in the astragalus which "seems to exist in man alone," and is a "trusswork" to sustain the weight of the body in its erect position. The only other animals in which he saw any approach to it were the chimpanzee and gorilla, but the human skeleton, he declares, deviates widely in details of its structure from that of all brutes, even the most anthropoid.

In these lectures, then, Agassiz showed unsuspected and startling resemblances between the most diverse animals, and Wyman pointed out undetected differences between those closest allied. It is curious indeed that in later years, Darwin should find favor with Wyman, but only steadfast opposition from Agassiz. Referring to this difference of opinion, Wyman once made the magnanimous comment,—"Say what we will as to his views, right or wrong, there is no mistake about it, Agassiz was head and shoulders above us all."

With the proceeds of the lectures Wyman sailed to Labrador with fishermen from Provincetown. In 1856 he visited Surinam, and undismayed by a severe attack of fever, later returned to South America for extensive travels. In the market of Paramaribo he saw certain fishes whose mouths were distended with developing eggs of their own species, none of which was allowed to reach their stomachs. Along the upper Surinam he caught the frog ***Hylodes lineatus*** with its tadpoles lightly adhering to its back. He had already studied "the swamp toad of Guiana," which goes further, in that its tadpoles become enclosed in dorsal cutaneous pockets and are nourished there, as Wyman thought, by secretions from the skin. Strikingly comparable with such toads in their strange manner of caring for their young, he found fishes of the genus Aspredo with their embryos enclosed in dermal cups, though here pedunculated and ventral. All these were described in his paper "On some unusual modes of gestation" (*Amer. Journ. of Sci.*, 1859, vol. 27, p. 5-13).

He was an incorrigible naturalist, but at the same time the local authority on human anatomy. In a memorable trial for murder, when many small fragments of bone had been found in a furnace, Wyman restored them in a way to arouse Holmes's admiration as "a masterpiece of accuracy and skill." At the autopsy of Daniel Webster it was Wyman who measured the cranial capacity and weighed the brain. He found the cranial capacity very unusual, "the largest which had yet been recorded," yet the weight of the brain was scarcely above normal. Now he knew that the brain weights assigned to Oliver Cromwell and Lord Byron were too great for the size of their skulls; and he could not leave Webster with a skull too capacious for his brain, or a brain too small for his talents. Recognizing that senile and pathological changes had occurred, he made a venturesome calculation of what its normal weight should be, involved in a problem which is still of great difficulty.

It is neither possible nor desirable to mention all the papers of interest which Wyman wrote. There is no book among them, but his notes show how well he might have written comprehensively on several large subjects. In point of size his chief publication is the "Anatomy of the nervous system of *Rana pipiens*" (Smithsonian Contributions, March, 1853), which contains alert morphological speculations, but is chiefly of historical interest. With the methods employed he found no continuity between nerve cells and nerve fibers in the brain—"not a single instance in which a nerve tube arose from or terminated in a cell"—from which it followed that all the longitudinal fibers in the brain of the frog must be prolonged from the cord; but in tracing the branches of the nerves by dissection the work was distinctly valuable.

In 1857, he described a notable fossil found by Dr. Newberry in the Carboniferous of Ohio (*Amer. Journ. of Sci.,* vol. 25, p. 158-164). Wyman named it *Raniceps Lyellii,* and observed that it was intermediate in several respects between the frogs and the salamanders. It was afterwards studied by Cope, who confirmed Wyman's description, and recently the type specimen has been refigured by Moodie.

At a later period Wyman ventured forth over the morphological quicksands of symmetry, fascinated by the way in which, in the isopods, the hind end of the body is a reverse duplication of the front end (*Proc. Boston Soc. Nat. Hist.,* 1867, vol. 11, p. 246-278). He compared the arrangement of the legs of a centipede with that of iron filings around a bar magnet, and showed by his figures that "the type or general idea of any of the double monsters may be imitated by the combined action of two magnets." Double monsters always interested him, and he has other papers about them which must be dismissed without comment. Already Oken had speculated at length on the fore and aft duplication in the body. "Notwithstanding the ridicule which has been directed to this view of his," says Wyman, ". . . the idea that the two ends of the body do repeat each other, may be, and we believe is, correct." In illustration, Wyman figured diagrammatically that early stage of the embryo in which the medullary groove expands in front to form the brain and behind to form the rhomboidal sinus. Meckel, in a long paper which Wyman had not read or it might have discouraged him, had pointed out that in the adult, though the cord does not expand below, its dural and arachnoid membranes are there distended; and it was Meckel who thought the thyreoid gland probably corresponded with the prostate, and balanced the renal with the respiratory system. For Wyman "the two opposite ends agree in this, that there is developed from the abdominal side of each end of the intestine, a sac—that in front forming the lung, and that behind, the allantois." Absurd as are these details, we agree with Wyman that there is a residuum of truth in the idea. The back of the arm is comparable with the front of the thigh~~, and the~~ palmar side ~~of the~~ forearm corresponds with the calf of the leg. Perhaps the ulna becomes in some ways homologous with the tibia, but does that make it a logical necessity that the little finger is the homologue of the great toe, as Wyman mildly argued? It was his pupil who championed the error, and referred to the correspondence of the thumb and great toe as "a popular superstition."

Wyman then turned to a far simpler subject —the measurement of the angles of the cell walls in honeycomb (*Proc. Amer. Acad.* 1868, vol. 7, p. 68-83). It was an old problem, for Pappus of Alexandria, himself a mathematician, had thought the bees must have intellect to construct such hexagons; but Erasmus Bartholin saw in their work only round holes crowded together as the bees pushed in and out. Lord Brougham, by micrometer measurements, became a true successor of Pappus. Then Wyman showed convincingly that apian mathematics had been greatly over-rated, for although in honeycomb there is a constant approach to that form which for economy of space and wax is perfect, it is rarely if ever attained.

In the "*Annales des Sciences*" for 1861, Pasteur published his "Mémoire sur les corpuscules organisés qui existent dans l'atmosphère" and considered it a mortal blow to the doctrine of spontaneous generation. Wyman was immediately impressed with these "admirable researches" and undertook to repeat certain of the experiments—"si faciles à répéter et que l'on peut varier de mille façons." They showed, Pasteur declared, "que l'origine de la vie dans les infusions qui ont été portées à l'ébullition, est uniquement due aux particules solides en suspension dans l'air." This statement should be compared with others earlier in the memoir where it is not "bringing to boiling," but "boiling for two or three minutes," that is needed for sterilization; and milk, Pasteur explains, requires a still longer time unless it is boiled under pressure. Wyman concluded from Pasteur's emphatic statements in regard to certain cases, that in general, if nutrient media are boiled for two or three minutes they should become perfectly sterile. Of his own work Wyman says:—"In most of the experiments the results have been quite different, and living organisms have made their appearance, in some instances where even greater precautions were taken than those mentioned by Pasteur." Often he found plentiful "vibrios, bacteriums and monads," after boiling from fifteen minutes to two hours. With characteristic reserve, he drew no general conclusion, but recognized that "those who advocate the theory of spontaneous generation would doubtless find, in the experiments here recorded, evidence in support of their views." They did so. Wyman found himself in the bad company of Pouchet, and was criticized by Milne-Edwards for "some probable defect in his operative procedures." Wyman continued his studies, and after three years he published again, reaffirming the entire correctness of his first report, but now adding that if the boiling is prolonged beyond a period of five hours, no organisms of any kind appear. Thus he differs from Pasteur only as to the time requisite for sterilization by boiling. In reviewing Wyman's reports, Professor Wolbach finds little to criticize. His data are adequate and his methods sound. It is evident that because he used coagulable and unfiltered media, a longer time was needed for sterilization than in the case of Pasteur's solutions.[*] And no bacteriologist today would regard Pasteur's sterilization as sufficient, in case any of the more resistant organisms happened to be present.

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[*] Holmes was an interested observer of Wyman's culture-flasks. In a lively dialogue in "The Poet at the Breakfast Table" (1872) he vividly describes the experiments, with sensible comments on their theological bearings, and reaches this conclusion:—"Sir, I believe we are at this moment in what will be recognized not many centuries hence as one of the late watches in the night of the dark ages."

There is other work of Wyman's, especially his later interest in archaeology, which can merely be mentioned here. Fortunately there are several biographical sketches in which much more may be found.[*] He had many friends, and of his personal character they speak with one accord. Not always are great scientists without failings, Holmes reflects—"Hunter was ill-tempered; Davy was ill-mannered"—but in Wyman there was never an unlovely trait. "He suffered long and was kind; he envied not; he vaunted not himself; sought not his own"—these are among the virtues and graces which Holmes recognized in him. Weir Mitchell writes that associations come back to his remembrance "filled with the charm of a man whose whole nature was simple, wholesome, pure and generous." "Others," he continues, "have said all that need be said of what he did for his much-loved science: it is less easy to convey to those who knew him not, an impression of the influence exerted upon younger workers, a sense of the social pleasure which came of his remarkable combination of vast knowledge and general culture combined with a certain loveliness of character and an almost childlike simplicity. . . There are some graves on which we cannot lay too many flowers: and therefore, after those who knew him best, I venture to add my words of honor and affection."

Since ancient times the works and praises of anatomists have been sung in Latin verse. In the sonnet in memory of Wyman, written by James Russell Lowell, it is as if these labored canticles and carmina had reached a final simplicity and perfection. Following with strict fidelity the well-attested traits of Wyman's character, Lowell, for the first time in anatomical literature, has adequately described the ideal anatomist, if indeed that may be done without a reference to the artistic and creative passion for vision and things seen. He wrote of Holmes in affectionate verses, and admiringly of Agassiz in an ode of five hundred lines, but incomparably nobler is his sonnet to Wyman. First published in *"The Nation,"* October 8, 1874, several lines were later revised by the author (*Heartsease and Rue*, 1888). This is its final form:

JEFFRIES WYMAN

DIED SEPTEMBER 4, 1874

The wisest man could ask no more of Fate
Than to be simple, modest, manly, true,
Safe from the Many, honored by the Few;
To count as naught in World, or Church, or State,
But inwardly in secret to be great;
To feel mysterious Nature ever new;
To touch, if not to grasp, her endless clue,
And learn by each discovery how to wait.
He widened knowledge and escaped the praise;
He wisely taught, because more wise to learn;
He toiled for Science, not to draw men's gaze,
But for her lore of self-denial stern.
That such a man could spring from our decays
Fans the soul's nobler faith until it burn.

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[*] Of the biographies, that by his colleague, Asa Gray, shows the closest fellowship (Proc. Boston Soc. Nat. Hist., 1875, vol. 17, p. 96-124). Not less interesting is O. W. Holmes in the Atlantic Monthly for November, 1874. Wyman's pupil, Professor Burt G. Wilder, of Cornell, wrote appreciatively in "Old and New," Nov., 1874, vol. 11, p. 533-544; and also in the Popular Science Monthly, Jan., 1875, vol. 6, p. 355-360. There is an anonymous sketch by a personal friend (F. W. Putnam) in the Proceedings of the American Academy, 1875, vol. 10, p. 496-505, which includes a bibliography. "The Scientific Life" is a tribute of rare literary merit by S. Weir Mitchell, in Lippincott's Magazine, Mar., 1875, vol. 15, p. 352-356. Depending chiefly on these sources, A. S. Packard wrote a rather ponderous memoir for the National Academy, of which Wyman was an incorporator (Nat. Acad., Biog. Mem., 1886, vol. 2, p. 75-126); and Professor Bardeen made a brief summary in "American Medical Biographies," edited by Kelly and Burrage, Baltimore, 1920. The bibliography of 175 titles, which is a part of Packard's memoir, was reprinted in "Animal Mechanics by Sir Charles Bell and Jeffries Wyman," Cambridge, 1902—a memorial volume with a portrait but no biography. Wyman once reported to Darwin that the Virginia crackers, finding that their white pigs died of eating paint-root, raised only black ones. On this slender footing he enters the Encyclopaedia Brittanica, where the only reference to him is under *Albino!*

URETERAL CALCULUS[*]

BY GEORGE GILBERT SMITH, M. D., F. A. C. S.

URETERAL calculi are of course caused by the same conditions which form kidney stones, the difference being that ureteral calculi are originally free in the kidney pelvis and of the size and shape to engage in the ureteropelvic orifice. The exact nature of the conditions underlying the formation of stone is unknown. A recent article by Spitzer and Hillkowitz[1] upon this subject is worth reading. These writers point out that the salts of the urine are kept in supersaturated solution through the agency of the colloids of the urine. Presence of other colloids of opposite electrical charge will neutralize the power of the protective colloids to hold the salts in solution, thereby allowing the latter to crystallize out. The crystalline deposit is bound together by irreversible colloids (colloids which cannot be redissolved). Uric acid and urates, which lie in a group betwen colloids and crystalloids, may form nuclei without colloidal cement. Schade (quoted by Spitzer and Hillkowitz) has successfully reproduced stones similar in arrangement to those found in the urine.

This explanation of the method of stone formation is enlightening, but it does not tell us, nor do the writers know, what causes the presence of the trouble-making colloids. Whether they are due to local lesions or to metabolic disturbances is a question, although the not infrequent occurrence of bilateral stone points to the latter.

This paper deals with a series of 56 cases of ureteral calculus. In 12 of these cases the diagnosis was not absolutely proved, but the combination of renal colic, hematuria and a traumatized, red and edematous ureteral orifice, followed by complete cessation of symptoms and free passage of a ureteral catheter, has seemed to justify the conclusion that a small stone had recently been passed.

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[*] Read before the New Bedford Medical Society, May 12, 1924.

Of the 56 cases, then, 38 were males, 18 females. As regards age, the present attack occurred between the 11th and 20th year in 4
the 21st and 30th year in 14
the 31st and 40th year in 17
the 41st and 50th year in 10
the 51st and 60th year in 8
the 61st and 70th year in 2
the 71st and 80th year in 1
—
56

A rather strking fact is that in 21 of the 38 men, the attack occurred in the period between 30 and 50; in 14, it happened during the years between 35 and 45. The incidence of stone in the 18 women of this series was distinctly earlier; in eight it appeared at 30 or before.

Only 5 of the 56 cases had passed stones or had stones removed previous to the present attack. In 5, there was a stone in the corresponding kidney as well as in the ureter; in 2, a stone in the opposite kidney. Two had 2 stones in the same ureter; in one, these lay close together, in the other they were widely separated.

The symptoms in 40 consisted of attacks of colic, almost always very severe. In 13 there was no colic, but there was a dull ache referred to the flank. These symptoms were of rather brief duration—one month or less—in the great majority of cases. A few had had recurrent attacks of colic or dull pain extending over a period of years. In 1 case, the symptoms had existed for 15 years; in three others 11, 10, and 6 years respectively.

The diagnosis of ureteral stone is always suggested whenever very severe unilateral colic is encountered. Renal stone seldom causes such acute pain, and is in fact very often painless. Excruciating, colicky pain, particularly if it gradually shifts from flank to groin, with radiation to bladder, genitals or thigh, is fairly sure to be due to a ureteral calculus. Gross hematuria is rather infrequent; it occurred in 5 cases of this series. Microscopic blood is almost always present. There may be a few leucocytes in the sediment, but there is seldom much pus, unless it is due to other conditions. Good X-Rays usually show a stone; poor films are worse than useless. Even if a shadow is present, one cannot be certain that it is due to a stone unless an opaque catheter is passed up the ureter, and X-Rays show the shadow lying against the catheter. It is well to have at least two films taken from different angles, or taken stereoscopically, as occasionally the shadow appears in one exposure to be against the catheter, and in another, to be quite removed from it. If the passage of the catheter is obstructed at the shadow, the diagnosis is fairly certain. A calcified gland pressing against the ureter may however give the same appearance.

The injection of sodium iodide is worth while as a confirmatory measure. If the catheter blocks the ureter sufficiently, the iodide passes up the ureter beyond the stone, and gives valuable information as to the amount of dilatation of ureter and renal pelvis. In cases in which one suspects a stone but cannot demonstrate it by X-Ray, the passage of a wax-tipped catheter, so carried out that the wax is not scratched by the cystoscope, is of considerable assistance. Since the more general resort to ureterography, however, this procedure is less often necessary. In a good ureterogram, a stone which casts no shadow appears as a vacuole.

When one is called to a case of ureteral colic, it is seldom feasible to resort to immediate cystoscopy. The administration of morphine and atropine, preferably hypodermically and in fairly large doses, must be the first step. This should not be done, of course, unless the possibility of an intraperitoneal condition, such as perforated ulcer or appendicitis, has been ruled out. In my experience, appendicitis never causes such excruciating pain as occurs with ureteral stone. In cases of peritoneal irritation, the patient holds himself rigid and tries to keep perfectly still; in ureteral colic he tends to roll about and double up. There may be—and usually is—spasm over the affected side, but the abdominal wall is not rigid on both sides, nor is there much real tenderness on pressure. Vomiting may occur in any of these conditions so is not a symptom of value in making a diagnosis. The sudden onset of pain radiating into the costovertebral angle, or into the genitals or thigh, is strongly presumptive evidence of ureteral colic. The most assuring single sign, however, is the presence of microscopic blood in the urine.

In addition to the use of morphine, a large, hot edema will be found useful. In my experience, benzyl benzoate has been absolutely without effect.

As soon as the patient can be moved, he should be radiographed. If a stone is demonstrated, the future conduct of the case depends largely upon the size, shape and position of the shadow. It is fair to assume that a small stone will pass, yet many small stones, if they are rough, will stick in the ureter longer than much larger, smooth stones. Without a doubt the passage of the stone will be hastened by catheterization of the ureter. This procedure should be tried faithfully before operation is advised. The trend of urological experience is away from operation.* Bugbee says that of 429 ureteral calculi in 317 patients, only 47 required operation. Crowell[2] reports the removal of stones by cystoscopic manipulation in 88 cases out of 95 attempts. He emphasizes the importance of securing anesthesia of the ureter by the injection of 2% procain.

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*At the meeting of the American Assn. of G. U. Surgeons held in May, 1924, several speakers called attention to the danger of postponing operative removal of stone in certain cases unsuitable for attempts at removal by cystoscopic manipulation.

The intravesical manipulations which have been most successful consist of first, simple catheterization of the ureter. This will often alter the axis of the stone and will start it again upon its descent. If the catheter passes the stone, it is well to leave it in the ureter for 24 hours. Crowell dilates the ureter either by passing larger and larger catheters, or by passing 2 or 3 small ones, leaving them in 24 hours. Enlargement of the ureteral orifice either by scissors used through the operating cystoscope or by burning it back with the high frequency spark is a valuable manoeuvre. This can be done best if a catheter is first passed into the ureter. The bladder wall on the upper vesical aspect of the ureter—on the summit of the ureteric ridge—is then fulgurated. Various ureteral dilators and probangs have been devised, but seem to me to be unnecessary and not without danger.

The extent to which these procedures may be tried is variable, depending upon the attendant conditions. If the patient is in constant pain, or if there is anuria from bilateral obstruction, single kidney, or any cause whatever, more radical measures must be employed. If, on the other hand, his colic subsides and he shows no signs of kidney damage from the obstruction, one may, and should, make repeated attempts to induce the stone to pass. Not infrequently one is amazed at the size of calculi which will pass through an apparently normal ureter.

In this series of 56 cases, the stone was removed by operation in 19 cases. In 18 cases, it was passed. This number includes those cases of uncertain diagnosis mentioned in the beginning of the paper, in which there was strong evidence that a stone had been passed before I saw the patient. In 19 cases, the outcome was unknown. The diagnosis had been made, but the patient either went to some other surgeon, passed the stone, or continued to carry it about with him. There were no operative deaths and no permanent fistulae.

In regard to the operation, little need be said. For stones in the upper third of the ureter, I employ a rather low oblique kidney incision. The kidney can then be examined, if that appears desirable. For stones at the pelvic brim or close above it, a muscle-splitting incision is used. For stones low in the ureter, I formerly used the curved incision advocated by Gibson of New York, but lately I have made a median suprapubic incision, stripping up the peritoneum as far as necessary. The ureter is picked up at the pelvic brim and freed sufficiently for the stone to be worked upwards to a position advantageous for its removal and the subsequent suture of the ureteral incision. Bougies 10 to 12 F. or a uterine probe should be passed down the ureter and through the ureteral orifice after the stone has been removed. It is very desirable not to make the incision at the point where the stone has been impacted, as the reparative powers of the ureteral wall are less good at that point, and also because the narrowing of the ureter which held the stone from passing may prove obstructive to the urinary stream, and thereby cause a fistula.

Adequate drainage must be provided for, and the wick of rubber dam should be left undisturbed for at least 8 or 9 days. Leakage may not commence for a week, and if the wick has been removed, urinary extravasation may then take place. The first case of ureteral calculus I operated upon after leaving the hospital did just this, to my great chagrin. I have never forgotten this lesson.

Some postoperative leakage of urine has occurred in most of my cases. A few have never leaked at all. The leakage usually ceases in from 10 days to 2 weeks. If it persists longer, it is wise to pass a catheter up the ureter and leave it in place for 2 or 3 days.

So far as possible, the postoperative course of these patients should be followed until the urine becomes free from signs of infection. Recovery from pyelitis, which persists in surprisingly few of these cases once the ureteral channel is cleared, may be hastened by dilatation of the ureter and pelvic lavage. The surgeon's work is only half done if he neglects this condition.

The only effective measure against recurrence is the ingestion of much water. This helps to clean up the infection, which may be a factor in the formation of further stones, and undoubtedly aids in keeping the urinary salts in solution. It also hastens the urinary flow, thereby preventing crystalline deposits. One case in this series is instructive. A young Albanian had come to me every year for three years with recurrent urinary calculi. They were of the phosphatic type, and occurred in the kidney and ureter, sometimes in both. I operated upon him four times. During the war he served with the Red Cross in Albania, leading an out of door life. I have seen him since his return, and X-Ray shows no recurrence of his calculi. Something in his altered mode of life probably changed his metabolic processes so that whatever had been the cause of his stones no longer existed.

REFERENCES

1 Spitzer, W. M., and Hillkowitz, P.: The Cause of Stone in the Urinary Tract. Jour. Urology, April, 1924, Vol. XI, No. 4, p. 327.

2 Crowell, A. J.: The Removal of Ureteral Stone by Cystoscopic Manipulation. Jour. Urology., Sept., 1921, Vol. VI, No. 3, p. 243.

FOOD ALLERGENS IN CONNECTION WITH ARTHRITIS

BY JOHN A. TURNBULL, M. D., BOSTON, MASS.

It has been known for a long time, that in some individuals, the eating of certain foods would produce rheumatism as well as disturbances of a respiratory or dermatological character. We often hear people say, "Oh, I cannot eat strawberries, red meats, or some other foods, it will give me rheumatism." In some of these cases the statement is obviously true, and articular disturbances are produced from eating foods to which the individual is sensitive. In other arthritic cases, the statement is the result of sayings passed along for years, from generation to generation, that red meats and acid fruits will produce arthritis in those having rheumatic tendency.

During my work with anaphylactic disturbances of the respiratory tract, as vasomotor rhinitis, hay fever, asthma, and bronchitis, I found many of these cases had associated joint manifestations, and, with the elimination of the offending allergens, the arthritis cleared up.

Case 1. Female, aged 68, married. No history of arthritis in the family. Arthritis began 20 years ago; appeared first in the toe joints, followed soon after, as the patient expressed it, by the nails getting black, giving the appearance of a bruised condition. The arthritis of the toes grew continually worse; there was a loss of all the nails of the toes. Later the finger joints and nails were affected in the same way. No nails have been lost in the last ten years. With the increased changes in the finger joints there followed an involvement of the ankles, hands, wrists, elbows, knees, hips, and shoulders. The condition has grown rapidly worse since the onset, so that the patient has used crutches for the last fourteen years. During the day for the last five years, the patient has spent most of the time in a wheel chair. Even with assistance it was very difficult for her to walk with crutches. Being unable to lift the feet from the floor for the last five years, locomotion has become very slow and uncertain, so that with the aid of crutches, locomotion takes place by means of a sliding movement of the feet inward so that the toes approximate, then an outward movement of the toes so that the heels meet. These rotary movements take place from the hips as the knees and ankles are fixed. By repeating these movements, with one crutch placed forward to give support, and the other used in forcing the body forward, a peculiar form of locomotion is accomplished. Ankylosis of ankles, knees, left elbow, and shoulder; no motion whatever; left elbow fixed at an angle of 75 degrees; slight rotary motion of the hips; limited motion of the right shoulder and elbow; unable to lift arm for feeding or touching any part of the head or face. A diet was worked out with the food allergens by the cutaneous method and reactions were obtained from wheat, lamb, turnip, peas, and chocolate. These foods were eliminated from the diet. In two months the patient could hold her hat on her head while motoring, do her own hair dressing, use the arm while eating, and could hold the arm straight above her head for five minutes. After four months of dieting the patient could raise her feet from the floor ten inches.

Case 2. Female, aged 30, schoolteacher. Mother has arthritis. Rheumatism for two years, especially in the feet and hands, also in the ankles, wrists, elbows, shoulders, and hips. Shoulder and hips most painful. Arthritis has been gradually increasing since the onset, two years ago, but in the last six months it has been more marked. Nose negative as to source of infection; sinuses transilluminate equally and well; Xrays of teeth, no focus of infection found. Tonsillar tissue present, from which considerable pus can be expressed from a number of the follicles. On the post pharyngeal wall there are several large, markedly congested, lymphoid masses. Patient has frequent sore throats; there is general congestion of the post pharyngeal membrane, with hypertrophied lymphoid masses. Tonsillectomy under general anesthesia. Three months later there was greater involvement of the joints, more frequent sore throats and congestion of the pharyngeal membrane and lymphoid masses. Cutaneous tests were made and reactions were obtained with corn, pork, cheese, flounder, and tea. After six weeks on a diet with the foods to which the patient was hypersensitive eliminated, there was gradual improvement of the joints symptoms. In three months there was freedom from arthritis except when completely exhausted; then the pains were slight, lasting only a few days. After six months there was no pain even when tired.

Formerly the patient suffered with frequent sore throats due to the action of the foods to which she was hypersensitive on the pharyngeal mucus membrane, and no doubt aggravated by her occupation as a teacher, which demanded considerable talking. After elimination of the food poisons, as I frequently call these foods to which the patients are hypersensitive, the excitant of the disturbance in the articular and periarticular structures was removed, and at the same time the source which produced the irritation of the pharyngeal mucus membrane was eliminated and the patient was relieved of her sore throats. There was at the same time a decrease in the size and finally complete disappearance of the lymphoid masses.

Case 3. Female, aged 57. Seven years ago first noticed pain in the metacarpal phalangeal joints of the right index finger; then the phalangeal joints of the hands; later the metacarpal articulations of the right hand. The elbow became involved one year later after the metacarpal phalangeal joints, the right hand and arm being affected more severely than the left. Considerable pain all the time, which is increased by the slightest movement. Pain in the right hand is increased by grasping or lifting an object of much weight. Mother had arthritis deformans. All joints of the fingers of both hands showed osteophytes; the metacarpal phalangeal joint of the right index finger showed the greatest articular and periarticular changes with deformity and marked enlargement of the distal end of the second metacarpal bone. This case was tested with the food allergens and found sensitive to corn, pork, lamb, asparagus, lettuce, coffee, and raspberry.' During the first six weeks, on a diet with the foods to which she was hypersensitive eliminated, there was more pain in the joints than previously and the patient was tired and exhausted. During the next two weeks there was a slight improvement in the arthritic condition and general feeling. At the end of three months on a diet free from foods to which she was sensitive, there was complete relief from joint pains with improved general feeling and greater vigor than for years. There was considerable reduction in the affected joints, especially in the right metacarpal phalangeal of the index finger which had shown the greatest enlargement. After five months dieting, the patient ate pork, corn, and lamb, to which she was hypersensitive and there was a return of the arthritis and the tired exhausted feeling.

Case 4. Male, aged 30. One and one half years ago was taken with severe pains in the lumbar region and both sacroiliac joints, the greatest pain being in the left sacroiliac articulation. The patient was perfectly comfortable in the sitting position and could drive an automobile all day without any marked pain, but on assuming the erect or prone position, the slightest movement caused great distress. Marked tenderness over the lumbar and both sacroiliac articulations; left more marked; increased on flexion, extension, or rotation. This patient was a machine gunner in the great world war. While on duty, during an attack, his gun was hit by a shell and exploded. His mate was killed and the patient was rendered unconscious. When he regained consciousness, some hours after, he was lying some distance away in a pool of mud and water. He was unable to move because of the wounds and shock, and was later captured by the enemy and left lying in a shack on some wet straw. He was in the enemy's hospital for three months, where he was treated for wounds and pain in the back.

The onset of the patient's trouble immediately followed this experience. While in the hospital in the prone position there was severe pain in the lumbar and sacroiliac region which was increased with the slightest movement. Later the sitting position was the only comfortable one; patient showed no improvement.

Xrays revealed no pathology in the joints. Patient was found hypersensitive to rice, chicken, salmon, spinach, celery, and banana. In three weeks, on a diet free from these hypersensitive foods, the patient was free from all pain in whatever position assumed.

COMMENTS

Analysis of these cases emphasizes certain striking points,

1st, that in Cases 1, 2, and 3 arthritis began in the feet and hands, later extending to the larger joints. It has been said that arthritis starts in the smaller joints of the feet and hands as these are more subject to traumatism, which probably acts as a predisposing cause.

2nd, that in Case 4 arthritis started in the lumbar and sacroiliac articulations; there was no affection of the joints of the hands or feet or invasion of any other joint than the original ones involved.

3rd, that in Case 1 the arthritic condition of the toes was soon followed, as the patient expressed it, by the black condition of the nails with later loss of the nails. This was probably due to the interference by the articular disturbance on the circulation of the matrix of the nail, or the action of the proteins directly on the vessels interfering with the circulation at the end of the nail.

4th, that in Cases 1 and 4 there was no family history of arthritis obtainable; in Cases 2 and 3 there was a history of arthritis in the family. Case 2 is the daughter of Case 1, and lives with her mother. Seeing her mother's condition daily, it is not surprising, as anyone under the same circumstances would, that she drew a mental picture of her own future as a cripple.

5th, that three of these cases are females and one male; arthritis seems to affect a greater number of women than men and both at all ages. The ages of these cases at the onset was 48, 28, 50 and 28½ years. Ages at the time of treatment by elimination of the hypersensitive proteins were 68, 30, 57 and 30 years. The length of time that these cases were affected with arthritis was 20, 2, 7, and 1½ years.

6th, that in Case 1, with the amount of ankylosis present in the elbow, shoulders, and knees, there must have been absorption and breaking down of the adhesive bands. This taking place without any massage or manipulation was more than could be expected.

7th, that in Case 4 we have wounds, shock, following the explosion of his gun, body hurled some distance, no doubt traumatism to the lumbar and sacroiliac joints, excitement on the battlefield, lying unconscious in mud and water, and probably a cramped condition of the articular structures. What greater combinations of factors would be necessary for the production of arthritis? There may have been previous sensitization which the system was able to take care of, but with the resistance lowered from such an ordeal, the sensitization manifested itself by articular disturbance. With the elimination of the hypersensitive foods there was complete relief.

This case presents a similarity in many respects to those cases of lumbar arthritis described by Leri[1]. Leri says that this condition occurred with great frequency during the war. The patients are usually young. The posture of the patient is variable. It is rare that they stand almost erect. They are usually forced to bend the body forward and to hold the knees more or less flexed, in such a way that the trunk forms an angle of from 170 to 140 degrees or even less with the thigh. The patients complain of sharp pains which are paroxysmal and continuous, located in the lumbar-sacral region. This case presents similar points to Leri's when the patient is lying prone. He can stretch out but usually the position is painful. Leri generally found that the vertebrael bodies are strongly grooved by the enlargement of the superior and inferior extremities and a relative diminution of the middle portion. Case 4 differs in that the Xray showed no such changes as above. Possibly this patient was seen before any great changes were produced.

CONCLUSIONS

Food allergy is an important factor to be investigated as well as other sources of arthritis.

A diet should be worked out for each individual; the diet of each depends on their own individual sensitization.

Elimination from the diet of the foods to which these patients were sensitive, the progress of the arthritis was arrested and they were relieved from the joint pains.

Elimination of the food allergens produced changes of the articular and periarticular adhesions allowing increased movements of the parts, which was a great advantage to the patient.

491 Commonwealth Ave.

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[1] Leri, Andre: Lumbar Arthritis. American Journal Clinical Medicine, 1923, XXX, 103.

BOOK REVIEWS

Bailliere's Popular Atlas of the Anatomy and Physiology of the Male Human Body. By Hubert E. A. Biss, M. A., M. D., Cantab. D. P. H. Plates by George M. Dupuy, M. D. Third Edition. Published by Wm. Wood & Sons, New York.

This chart consists of eight plates depicting the bony skeleton, the musculature, the contents of thorax and peritoneum, and the organs of special sense, and twenty-seven pages of description. The work is evidently intended for the elementary student of anatomy and physiology, or for the layman who wishes to work out by himself the chief facts in the anatomy and physiology of the body. The plates are clear and well done and illustrate the salient facts in human anatomy. The reader for whom this chart is intended might well profit from a study of it.

Selections from the Works of Ambrose Paré with Short Biography and Explanatory and Biographical Notes. By Dorothea Waley Singer. Medical Classics Series. New York. William Wood and Co. MDCCCCXXIV. P. 246.

These selections from the works of Paré, together with Dorothea Singer's interesting biography and the explanatory notes, form a valuable addition to the medical classics series.

The great achievements of Paré for the science and art of surgery, are too well known to require reference to specifically. The delight of this volume is from the fact that after its perusal we feel that we know something of the man, his kindness, intense love of his art, and his analytical mind, never satisfied to accept the routine of the day, but always casting about for some better treatment, some further and deeper information on the cause of disease and the treatment of wounds.

The numerous illustrations of the surgical instruments of the times, together with the two portraits of Paré, one at 45 and the other at 75 years, enhance the value of the volume.

The extracts in the present book are taken from the English translation of Thomas Johnson, published in 1634.

There were other English editions in 1665 and 1678. The original spelling has been adhered to in the text, but different names required constant adjustment. Book XI and his final book, containing the surgical experiences of Paré's whole life, were chosen to give the best picture "Of the kindly, humorous, shrewd old surgeon."

The following quotation from "The eighth operation," page 162, is typical of the shrewd common sense of our great chirurgeon: "The operations of Chirurgery are learnt by the eye & by the touch. Diseases are not to be cured by eloquence, but by remedies well and duly applied, which if any wise and discreete man, though he have no tongue, know well the use thereof, this man in time shall become the great Physition, than if without practice his tongue were dipt with oratory, the which you your selfe confesse in your sayd booke, by a Tetrasticke which is thus:

"To talkes not all in Chirurgions Art,
But working with the hands,
Aptly to dresse each greeved part,
And guide, fire, knife, and bands."

The "Canons et Reigles" at the end of the book are full of common sense surgical and medical advice.

The following gems are contained in them, as true today as in Ambrose time.

"He shall never doe any thing praise-worthy, that hath got his mastery in Chirurgery for the sake of gold, and not of knowledge."

"You shall comfort the patient with hope of recovery, even when as there is danger of death."

"Though the disease prove long, yet it is not fit that the physition give over the patient."

"He who has experience is far better prepared for emergency than he who hath much learning and no experience."

The light weight of the volume is to be commended, many medical books though of small size are unduly heavy, so that their perusal becomes a task.

The book will prove a delight to those physicians interested in medical history, and likewise to numbers of the thinking public.

The International Medical Annual. 1924. New York: William Wood & Co.

It is refreshing to find a volume the avowed purpose of which is to be of practical value to the general practitioner, and to note the method adopted,—namely, a careful critical review of the important advances in medicine and surgery during the past year. The articles are written by able men, picked from three continents; and are complete enough to be of value in themselves. Intelligent references, moreover, accompany each article. There flickers through the mind a suspicion whether there be an ulterior motive in mentioning certain firms of instrument makers by name, but the book as a whole serves at once to dismiss the thought.

In our opinion this volume is useful not only to the general practitioner, but to those in each field who care to keep in touch with the advances taking place in all of the many fields of medicine and surgery. The reviewer has read much of the book with pleasure and interest.

A Study of Masturbation and Its Reputed Sequelae. By **John F. W. Meagher, M. D., F. A. C. P.** Published by William Wood and Company, New York. 63 pages.

An admirable summary of the causes, prevalence, sequelae and treatment of masturbation is here presented. The author discusses the subject with delicacy and yet in an open and scientific manner. He believes that indulgence in the habit is extremely prevalent; physiologically the habit is not abnormal in young children, but is always abnormal in adults, in whom it shows a psychosexual maldevelopment, or a regressive phenomenon. The harm resulting from excessive indulgence in masturbation is chiefly in the mental and moral spheres, rather than in the physical sphere.

The book is one which can be given to any intelligent layman without hesitation; every parent and every physician should read it.

Pathological Technique. 8th edition. By **Frank B. Mallory, M. D.**, and **James H. Wright, M. D.** Pp. 666. W. B. Saunders Co.

To the laboratory worker this book needs no introduction. Dr. Mallory's methods are in use throughout the world and the new edition of Pathological Technique gives not only the latest improvements in these, but complete directions for all laboratory procedures. The sections on bacteriology have been enlarged and rewritten, with numerous excellent photomicrographs of various organisms. Full directions are given for the making of the more important media and the adjustment of their reaction titrimetrically and of their hydrogen ion concentration colorimetrically.

The section on serological technique contains the most clear, explicit and practical directions for the performance of the Wassermann and Sachs-Georgi reactions that the reviewer has encountered. The methods of examination of the spinal fluids are also of great practical value. The histology and clinical pathology of the blood is taken up in full detail, yet without too great elaboration.

The inclusion of Dr. Munro's method of opening the skull in the postmortem examination of newborn infants is a valuable addition. This method is of great service in the demonstration of intracranial hemorrhage.

The many admirers of the photomicrographs both in this book and in Dr. Mallory's Histologic Pathology will be glad to find the methods by which they were taken included in the next.

What Osler is to the practitioner, this volume is to the laboratory man. No small amount of America's prestige in pathological research is due to our methods, and the best of these are given in Mallory and Wright's Technique.

Proceedings of the Third International Congress of the History of Medicine. Large Octavo, Pages 320, Vlijt, Antwerp, 1923.

The Third International Congress of the History of Medicine met in London, July 17-22, 1922, under the direction of Sir Norman Moore and Charles Singer. About six physicians represented this country. The Proceedings are now published in an interesting volume, well printed with excellent illustrations, but rather poorly bound. Most of the papers are short, some apparently being summaries of longer articles. They are written in English, French, and German. A complete index is missing. Among the many interesting papers is an excellent five-page article by Dr. E. T. Withington on

"Galen's Anatomy," apparently an introduction to a longer article. This scholarly but short paper is written in Withington's most delightful style. Another, by Poynton on "Doctors and the Dawn of Aerostation," is of distinctly local interest. He mentions Dr. John Jeffries, who was born in Boston, in 1744. Jeffries accompanied Blanchard on the first crossing of the English Channel by balloon, Jan. 7, 1785, from Dover to France. Apparently they had a difficult passage, but Dr. Jeffries proved to be extraordinarily resourceful, and the journey was safely made. Ernest Wickersheimer contributes two interesting papers in French, one being a short but splendid account of Robert Grosseteste. Two more articles on veterinary practice and anatomy are especially interesting, one of which is extensively illustrated. Gilmour writes on, "Pharmacy in Great Britain and Ireland," showing that pharmacies were established in England, perhaps in the 14th Century, and certainly one about 1436-60 at Edinburgh, by direction of the King. Van Schevensteen contributes a paper of great detail with an extensive bibliography on, "Human Remedies used in Diseases of the Eye." A paper of interest is by Lecène on a foot-drop splint of the Paré pattern used about 1550-70, as shown by the artist Moroni in a portrait of a gentleman, now in the National Gallery, London.

Common Symptoms of An Unsound Mind. By G. Rutherford Jeffrey, Hoeber, N. Y., 1923.

This book is written primarily for the general practitioner. The main symptoms of mental diseases are clearly and critically examined by the author whose experience as superintendent of a large hospital in York, England, fully qualifies him for the task. In a foreword Sir James Crichton Browne points out the value of this study. The chapter heads, Delusions, Disorders of Perception, Exaltation, Excitement and Depression, Mental Confusion, and Altered Conduct, give an idea of the scope of the book. A final chapter on Mental Unsoundness from the medico-legal viewpoint is a clear presentation in simple language on this difficult phase of the subject. The book on the whole adheres to ascertained facts, and as such is a valuable addition for general use to the literature of the symptomatology of early mental disease.

Mind and Medicine. By Thomas W. Salmon, M. D., Columbia University Press, New York, 1924.

This little book of 33 pages, beautifully printed and bound, is the address given by Dr. Salmon, newly elected Professor of Psychiatry, at the opening session of the College of Physicians and Surgeons, Columbia University, September 26, 1923. The book is an excellent summary of the present day views of a psychiatrist on the relation of his specialty to general medicine. Salmon points out that scientific medicine has too much neglected the psychic factor in diseases. The extent of "insanity" is appalling. In New York state, "one person in ten who reaches adult life is admitted to a mental hospital before he dies." Many well-educated physicians hardly know the names and chief characteristics of the diseases from which this army of patients suffer. This is equally so in regard to the psychoneuroses. It is only in the last sixty or seventy years that this separation of mind and medicine has come about, a parting of the ways coincident with the birth of modern scientific medicine. Interest in structure has almost replaced interest in function. Dr. Salmon sees a change for the better in the work of Cannon and Sherrington in the physiology of function, dealing with the reaction of the organism as a whole. Another excellent tendency is, "the eagerness with which those engaged in other kinds of humanitarian work accept scientific guidance, thus opening rich opportunities for the social applications of medicine." Medical experiences of the war went far towards breaking down the isolation of mental medicine. Psychiatrists are also taking increasing interest in all physical factors in their patients. The growth of the diagnostic clinic dealing with general medical problems in our hospitals for mental disease is a distinct step in advance. Dr. Salmon looks forward to a "new kind of medical education that will train physicians to deal with the total reactions of human beings—mental and physical and social." The views expressed in this booklet are well worth the attention of all physicians, and especially those whose field is general practice.

Marriage and Syphilis, a Treatise on Eugenics. By G. M. Katsainos, M. D. F. H. Thomas Company, Boston. 162 pages. 34 illustrations. Price $3.00.

When a writer on medical subjects expresses beliefs as diametrically opposed to the current medical opinion as are those advanced by Katsainos, he must produce very sound and unanswerable facts in support of his theory if he would be taken seriously. Katsainos states that syphilis, whether acquired or congenital, is never eradicated; that modern treatment, while it may modify its course, cannot cure the disease; and that the disease, in spite of treatment, is transmitted to the third and fourth generations. As the logical conclusion of these hypotheses, this writer is absolutely opposed to the marriage of anyone who has ever had syphilis.

In support of these rather startling theories, Katsainos quotes liberally from ancient Greek and mediaeval European writers. He has found a few modern authors who more or less support his views, notably Warthing of the University of Michigan.

Aside from some unconvincing quotations, no evidence of value is presented. The author indulges in sweeping, unsupported assertions, of which the following is an example:—

Syphilis, indeed, has become the most dreadful scourge of mankind. Transmitted by inheritance to children, it torments them more cruelly and relentlessly than the guilty parents. Through the lesions which it causes to the organs of internal secretion, and which can never be mitigated or cured, it passes on to grandchildren, and to every generation until the guilty seed utterly perish, hounding its descendants no longer as syphilis but as a dystrophic and undermining condition, manifesting itself in various guises as teratosis, gigantism, dwarfism, megalakria, cretinism, paranoia, epilepsy, diabetes, rachitis, infantilism, and, in general, as a fundamental and hopeless disease, whether nervous or mental, and causing derangements which, though they cannot always be organically explained, are made tragically evident by the disorganized functions of the mind and body. Any man of sound mind unaffected by either remotely inherited or recently contracted syphilis, and unprejudiced by basely selfish considerations, should certainly be in a position to understand the weight of these consequences."

May we respectfully inquire whether there is anybody now alive in whose ancestry there is no taint of syphilis? If Katsainos' theory were correct, the race would now be extinct.

We regret that so beautifully printed a book, and one so replete with quotations from classic authors, should present so warped a view of life. We object to the author's statement that the motive of human reproduction is lust. (p. 20.) We believe that this book is substantially unsound, altogether unfit for perusal by the laity, and capable of causing great mental suffering among those unfortunates who, innocently or otherwise, have contracted syphilis and have fulfilled the requirements of modern medicine as to treatment of their disease.

The Treatment of the Common Disorders of Digestion. By John L. Kantor, Ph. D., M. D. C. V. Mosby Company, St. Louis. 1924. Pages 245.

The author states that this "handbook is intended to serve as a guide in the treatment of those forms of digestive disorder most commonly met with in the practice of medicine."

The diet lists offered are for the most part those tested by a long and cumulative experience of many workers at the Vanderbilt Clinic. The book is well printed, well illustrated, and supplied not only with a subject index but with an index of authors quoted, the actual references being given in footnotes throughout the text.

The subject matter presented is in general excellent, giving a satisfactory perspective of the newer methods of approaching the more common digestive disorders.

It is gratifying to note the attention which has been given to the intimate relationship so frequently existing between local gastro-intestinal disturbances, general nervous disabilities, and bodily habitus, especially of the thin or asthenic type. Furthermore, safe, sane and helpful suggestions are made, the correct application of which may frequently be counted upon to do much to improve the unenviable status of a class of patients too often left unimproved by physicians who find the asthenic invalid merely uninteresting.

The reviewer feels no hesitation in recommending not only to students but to physicians, to both of whom it is dedicated, a thoughtful perusal of this practical and up-to-date handbook on the Common Disorders of Digestion.

Venereal Disease. Its Prevention, Symptoms and Treatment. By Hugh Wansay Bayly, M. D. Published by The MacMillan Company, New York, Second Edit., 176 pages, 58 illustrations.

This second edition of Bayly's treatise on venereal disease consists of three sections. The first has to do with the social and legislative aspect of the diseases and with their prevention. Section II deals with syphilis and Section III with gonorrhea.

Bayly is a thorough-going preventionist, and advocates a definite, aggressive policy to this end. He would attack the problem through education, legislation directed toward the enforcement of thorough treatment, supervision of prostitutes (but not regulation), protection of individuals from temptation, preventive measures, and permanent cure of infected persons.

This program has been endorsed by the British Society for the Prevention of Venereal Diseases, and must appeal to every doctor and student of sociology.

The matter of instruction in methods of self-disinfection is very well handled; the policy advocated is fairly free from the objectionable features sometimes found in such programs. Such instruction would be given "to men above the age of 18, to adult women on demand, and to younger persons in special cases at the discretion of those responsible for their welfare." Legal restrictions against the sale of self-disinfectants should be removed, and such disinfectants should be easily obtainable, and accompanied by full instructions in their use.

The Sections on syphilis and gonorrhea are concise but thorough, and provide adequate guidance for the general practitioner who wishes to treat venereal disease in a modern, scientific manner. Gonorrhea in women is well described.

Many valuable suggestions in the technic of managing these diseases are given.

The book seems to us one of the best manuals written along this line which we have ever seen.

Allgemeine und experimentelle Pathologie. Urban & Schwarzenberg, Wien. By DR. HERMANN PFEIFFER.

This book is an admirable text-book for those who wish to obtain a general idea of the present status of experimental pathology and our knowledge of the trend of research. It has a failing common to German text-books, which is the compression of too much material for the compass of the work and the size of the volume. Such compression leads naturally to dogmatic statements, which, while they represent perhaps the conclusions of the author in regard to subjects under discussion, give no indication of the transitory state of knowledge pertaining to these subjects in many instaces. In the present work this defect is ameliorated to some extent by references cited.

The book contains a general discussion in regard to the causation of disease, with a more or less detailed consideration of the following subjects:—Diseases of nutrition; the effects of radiant energy; diseases due to changes of air pressure, trauma, chemical agents, living agents, including fungi, bacteria, filterable viruses, spirochaetes, worms and arthropods. All the above subjects are considered in 156 pages. 18 pages are devoted to inflammation; 20 pages to the consideration of fever. The subject of immunity has 38 pages. Diseases of the blood and blood forming organs, 27 pages. Disturbances of the circulation, 40 pages. Disturbances of respiration, 15 pages. Diseases of metabolism, 76 pages. Organs of internal secretion, 112 pages. Experimental tumor research, 27 pages.

The reviewer knows of no comparable work in English, and accordingly, while it is possible to challenge many statements in the treatment of subjects in which the reviewer has expert knowledge, he feels that the book as a whole is to be heartily recommended to physicians and medical students who wish to get an idea of the present trend of research in medicine. The book can be recommended for collateral reading for students in pathology. Its value would be greatly enhanced by increasing the number of references to original articles.

Habit Clinics for the Child of Pre-School Age. Their Organization and Practical Value. By D. A. THOM, M. D., U. S. Department of Labor. Bureau Publication No. 135.

Dr. Thom, in this pamphlet of 71 pages, interprets much of the work that has been done in the six Habit Clinics that have been established in Massachusetts in the last two years; three under the Community Health Association of Boston and three under the department of mental diseases in the division of mental hygiene.

The organization and development of the clinic is described, and such problems are discussed as the child, the parent, feeding, enurosis, sex problem, tantrum, etc. The handling of these difficulties is amply illustrated with case reports.

Collected Papers of the Mayo Clinic and the Mayo Foundation. Edited by MRS. M. H. MELLISH. Vol. XV, 1923. 1923 Collected Papers of the Mayo Clinic and the Mayo Foundation, Rochester, Minnesota. Octavo of 1377 pages, 410 illustrations. Philadelphia and London: W. B. Saunders Company, 1924. Cloth, $13.00 net. W. B. Saunders Company, Philadelphia, London.

The present volume marks a radical departure from the policy previously pursued in the selection of material for republication in the Collected Papers of the Mayo Clinic and the Mayo Foundation. As stated in the preface to the first volume, the previous policy has been to make the Collected Papers "an indexed respository of reprints of all papers from the Mayo Clinic." Since 1917 it has been impossible, even with the most careful condensation and a very great increase in the size of the annual volume, to include all the papers of the year. The original basis of selection has, therefore, been abandoned.

The present volume is a complete reference record of all papers for the year 1923 from the Mayo Clinic and the Mayo Foundation, every such paper being published therein complete, abridged, abstracted, or by title. Such articles as do not seem to be of interest to general physicians or general surgeons, but to be of technical or other limited interest only to specialists in the various preclinical and limited clinical fields are included in brief abstract or by reference only. These papers have been published in journals devoted to the several specialties. Readers having difficulty in obtaining access to the journals containing the original papers may, in some instances, be supplied with reprints of them by communication with the Division of Publications of the Mayo Clinic.

The result of the new plan has been a very great reduction in the total amount of matter republished from the Mayo Clinic and Mayo Foundation. Last year the two volumes netted more than 2100 pages and all reference to more than fifty papers was omitted. The present volume contains 1420 pages, and yet includes, at least in reference, all papers published from the Mayo Clinic and the Mayo Foundation.

The articles in this particular group of papers are much more concise than former groups but apparently do not lose in excellence for this reason. There are many excellent illustrations and X-ray plates accompanying various articles. The work as it is, covering that of the Mayo Clinic, extends over a very wide field of surgery and medicine including many rare pathological conditions, also many concise summaries of uptodate knowledge in certain widely discussed problems.

For these various reasons, this volume seems much more attractive than those which have preceded it. E. H. R.

The Medical Department of the United States Army in the World War. Volume XI, Surgery. Part 2.

This volume is divided into six sections, the first and largest being devoted to "Empyema." This comprises 392 pages, and is edited by Lieut. Col. Edward K. Dunham. Section II is upon "Maxillofacial Surgery," by Lieut. Col. Robert H. Ivy and Major Joseph D. Eby, 162 pages; Section III on "Ophthalmology in the United States," 105 pages; Section IV, "Ophthalmology in the American Expeditionary Forces," 69 pages; Section V, "Otolaryngology in the United States," 61 pages; Section VI, "Otolaryngology in the American Expeditionary Forces," 18 pages.

This whole volume is prepared under the direction of Major General M. W. Ireland, Surgeon General of the Army, from the Government Printing Office, Washington, 1924.

This book is marked by the great detail into which it goes in treating the various subjects presented. The text is amplified and explained by the addition of a great many graphic charts. There are also many excellent colored plates and X-ray pictures of high quality illustrative of typical conditions found. To show into what detail the book goes, the enumeration of the table of contents alone occupies 25 pages.

The treatment of the subject of empyema is gone into with extreme thoroughness, data being taken and analysed separately from each cantonment throughout the country. This work of course is that which started under the direction of the Empyema Commission, and is a study of the findings and conclusions reached by that Commission.

The chapter on maxillofacial surgery is likewise extremely thorough. There are many excellent drawings and plates, photographs of the pathological conditions, operative treatment, and end-results, some of which are indeed surprising because of their excellence.

The remaining chapters, while more brief, are marked by conciseness and evidence of careful work.

The illustrations are particularly valuable. There is a complete index.

This volume forms a valuable addition to the history and treatment of empyema and to the surgery or traumatic lesions of the face, especially the maxillary region and the eyes.

E. H. R.

Domiciliary Treatment of Tuberculosis. By F. Rufenacht Walters, M. D. Published by William Wood & Company, New York. Price, $4.00.

This book of 275 pages is intended for general practitioners as a compact and reliable guide to the treatment of tuberculosis. There are various books of the same type published by authorities in this country.

This second edition is practically the same as the first except that the writer goes into more details concerning the subjects which he takes up.

Each chapter is divided into separate headings which make it easy to read and to find the particular subject in which one is interested. In chapter XV under "General Remedies" he devotes several pages to the creosote group and to the phenols and cresols. These might well be eliminated with benefit to all.

He likewise refers to the use of ichthyol and iodine and numerous other preparations in the treatment of tuberculosis. The book would be improved by omitting all of these.

The chapters on "Recreation and Occupation," on "After-Care and the Industrial Position" are excellent.

There is a appendix in which he takes up sputum examinations, diet and the classifications of tuberculosis. J. B. H.

"*Hernia.*" By Leigh F. Watson, M. D., with 232 original illustrations. C. V. Mosby Company, St. Louis. Price $11.

Every young surgeon thinks he knows all about the subject of hernia when he graduates from his interneship. As he grows older, he realizes how little he really knew. If he could have seen Watson's book on "Hernia," he undoubtedly would have been saved moments of embarrassment and would be a better diagnostician and operator.

The book itself is distinctly worth while for any surgeon, as it gives in an interesting way the history of hernia, its differential diagnosis, methods of treatment and the operations for the various types of hernia. It also covers the treatment of accidents which may occur during operation and the prognosis in each type of case.

How many realize correctly the etiological factors which cause hernia: what might be expected to be found in an inguinal hernia in a child under a year: how to best treat sliding or a diaphragmatic hernia? All of these points are taken up in detail in this work.

No review of the book could be concluded without commending most strongly the bibliography at the end of each chapter and the very clear illustrations, showing not only the anatomical relations of herniae in different locations of the body, but necessary surgical steps in their treatment together with diagrams of some original stitches.

Case Records of the Massachusetts General Hospital

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY
RICHARD C. CABOT, M.D., AND HUGH CABOT, M.D.
F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 10361

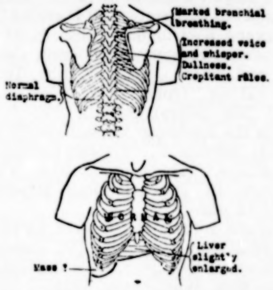
An American clerk of twenty entered March 11 complaining of pain in the right side of ten weeks' duration.

F. H. His father died five years ago of tuberculosis. All his relatives on both sides were very nervous. "His mother is too solicitous and fussy over him, so he takes himself very seriously."

P. H. He had never been especially strong. Five years ago he had whooping cough and was ill in bed for a week with influenza. Three years ago he had measles.

P. I. Two months ago he began to have dull pain in his right side three inches to the right of the umbilicus, worse on deep inspiration, increasing in severity through the afternoon, but not becoming severe enough to make him sit down. He went to bed the night of the onset and remained there three days. During this time the pain was continuous. His bowels were very constipated, as they had been for four days before the onset of the pain. He slept poorly, but not because of the pain until the third day, when he began to be feverish and the pain kept him awake at night. Nothing relieved it. At the end of three days he went to a hospital where he remained a week. The pain disappeared at the end of the third day in the hospital. On admission his temperature was 104°, on discharge 99°. After his discharge he felt well for three days. Then the pain and fever recurred. He went to bed. His temperature was 103° in the late afternoon and normal in the morning. The second week it was 102°, then 101°-100°, and by three weeks before admission it was almost normal. During this period his bowels were very constipated. He took cathartics twice a day and had a movement every two days. He was very restless at night and took medicine prescribed by a doctor to make him sleep. Five weeks ago the pain ceased for two weeks. Three weeks ago he began to have soreness over the region of the old pain and the temperature rose again to 102°. The soreness changed in a week to constant dull aching pain so mild that he barely knew it was there. During his illness his weight had dropped from 143 to 120-125. He had urinated once or twice at night, and on a few occasions had sweat slightly at night.

P. E. Emaciated. Skin and mucous membranes pale. Teeth showed deficiency in enamel, and one upper incisor suggested Hutchinson's notching. Slight pyorrhea. Tremor of tongue. Tonsils markedly enlarged. Pharynx injected. Apex impulse of the *heart* in the fifth space inside the nipple line. Percussion measurements not recorded. No abnormalities recorded. Pulses rather weak. *Lung* signs and *abdomen* as shown in the diagram. Deep tenderness in right upper quadrant with a sense of resistance under the costal margin. *Genitals* and *extremities* normal. *Rectal examination* normal. *Pupils* equal, regular, markedly dilated, did not fully react to light. *Reflexes.* Knee-jerks not markedly increased. Well sustained clonus on the right, less marked on the left. Questionable Oppenheim on the right. Babinski negative.



Before operation *T.* 98°-105°, *P.* 83-147, *R.* 11-29, *urine* ℥ 43-149 when recorded, sp. gr. 1.025-1.016, cloudy at three of five examinations, red at the first, a very slight trace to the very slightest possible trace of albumin at two, many leucocytes at all, 2-4 red blood corpuscles at the first. *Catheter specimens.* I. Sediment, many leucocytes, some clumped. Culture, staphylococcus aureus. II. Centrifuged. Negative for tb. *Three cultures* from catheter specimens showed staphylococcus aureus. *Two blood cultures* negative. *Renal function* 50%. *Blood,* hgb. 55%-70%, leucocytes 11,200-27,000, polynuclears 82%-85%, reds 3,600,000-3,680,000, slight achromia in one of three smears, polychromatophilia and anisocytosis in two. *Wassermann* negative. *Non-protein nitrogen* 35.4 mgm. *Prostatic examination March 18* showed definite enlargement of the left lateral lobe with moderate tenderness. Secretion excreted with moderate force. Smear showed 75-100 leucocytes, some clumping, 10-15 round mononuclear cells, moderate number of spermatozoa, a few rod-like bacilli. No tb. *March 20* a smear showed fairly frequent pus cells, no intracellular cocci. Culture showed profuse growth of staphylococcus and Gram-positive bacilli. *Sputum culture* April 2. Profuse growth of staphylococcus aureus and streptococcus. *Culture of chest* fluid April 4 negative. *X-rays.* March 14. No evidence of pathology in the lung fields or kidney regions. Stomach low and atonic. Peristalsis sluggish. Ileum low; contained all of the meal at six hours, but had completely emptied at the twenty-four hour examination. Cecum apparently normal in filling, regular in outline, and freely movable. A moderate degree of tenderness was elicited in this region. Large bowel of the hammock type, but otherwise negative. *March 31,* (See Plate I.) Diaphragm high on the right. An irregular area of mottled dullness extended outward and downward from the right lung nearly across the chest. This area had indefinitely defined margins suggesting a bronchopneumonic process. The remainder of the lung fields clear. No evidence of fluid. *April 4.* (See Plate II.) Kidney outlines obscured by shadows of the intestines, which were distended by a large amount of gas. The opaque catheters passed to the region of the kidney pelves and were not abnormal in their course. None of the opaque injection was seen in the pelvis of the kidney. The upper portion of the right ureter appeared very narrow down as far as the lower border of the fourth lumbar vertebra. Below this region the ureter was normal in appearance and well filled. Within its shadow was seen a group of small red spots resembling bubbles and probably representing bubbles of gas in the injected liquid. Left ureter normal in appearance. No shadows suggesting stone. First sacral segment showed an abnormality of development, the right side being separate and assuming the character of a transverse lumbar process.

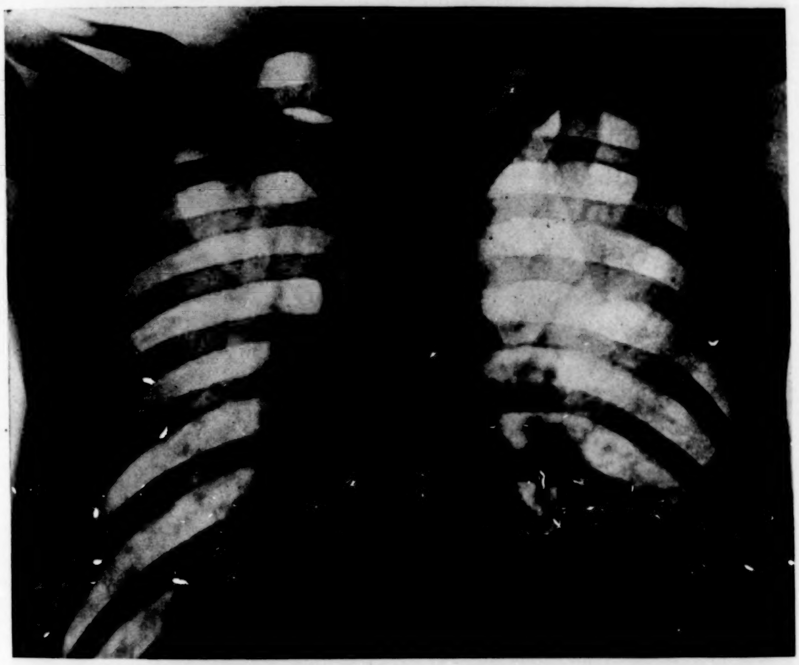


PLATE I. March 31. Diaphragm high on the right. An irregular area of mottled dullness extends outward and downward from the right lung nearly across the chest. This area has indefinitely defined margins suggesting a bronchopneumonic process. The remainder of the lung fields clear. No evidence of fluid.

The patient was thought at first to look the picture of chronic sepsis with secondary anemia. By March 14 he was still weak, but the pain, mass and tenderness in the right upper quadrant were gone. March 15 the chest appeared clear. The abdomen was held somewhat stiffly. There was well sustained ankle clonus on each side, but no other pathological reflex. The spleen was two cm. below the costal margin.

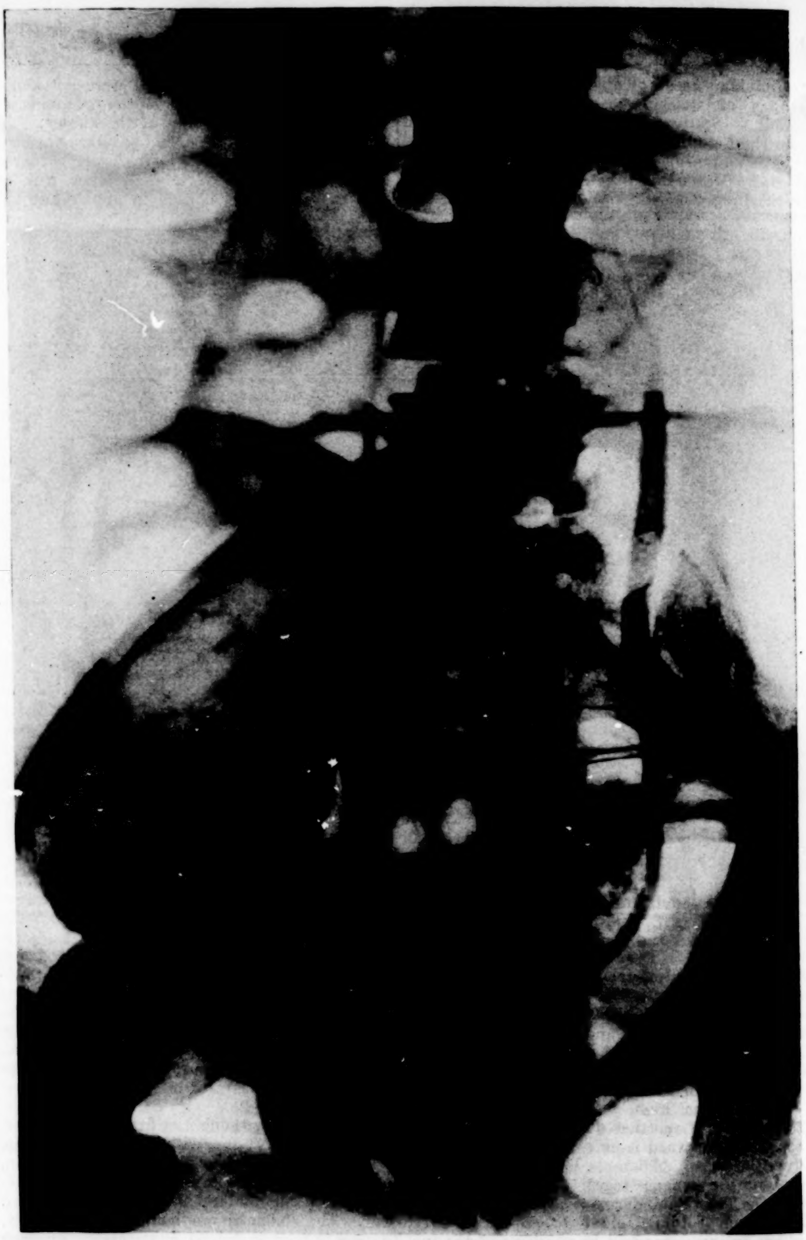


PLATE II. April 4. Kidney outlines obscured by shadows of the intestines, which are distended by a large amount of gas. The opaque catheters pass to the region of the kidney pelves and are not abnormal in their course. None of the opaque injection is seen in the pelvis of the kidney. The upper portion of the right ureter appears very narrow down as far as the lower border of the fourth lumbar vertebra. Below this region the ureter is normal in appearance and well filled. Within its shadow is seen a group of small red spots resembling bubbles and probably representing bubbles of gas in the injected liquid. Left ureter normal in appearance. No shadows suggesting stone. First sacral segment shows an abnormality of development, the right side being separate and assuming the character of a transverse lumbar process.

The shadow of the air cushion, which was not removed, is seen across the pelvis.

There was marked cachexia. The next day the clonus was not sustained. March 23 the right diaphragm was higher than the left and did not move with respiration. There were dullness, diminished voice sounds and absent breath sounds at the right base below the diaphragm. March 27 the signs were much more marked, giving the appearance of fluid or possibly due to the high diaphragm. When the patient was sitting there was resistance and fullness in the right costovertebral region.

March 29 cystoscopy was done.

March 31 there was slight cough, which was worse the following day, with blood-streaked sputum and râles in the right back and pain below the right scapula on coughing. April 2 the patient was comfortable, and had no cough. Fluid was drawn from the right chest.

April 3 another cystoscopy was done. The urinary sediment from the right kidney showed very many pus cells, a few red blood cells and epithelial cells. Culture showed a profuse growth of staphylococcus and colon-like bacilli. The left kidney sediment showed a moderate number of red blood corpuscles and a few epithelial cells; no leucocytes. Culture showed a profuse growth of colon-like bacilli.

April 4 1300 c.c. of saline was given subpectorally. The abdomen was distended.

April 4 operation was done. Next morning the patient was very much worse. The abdomen was greatly distended and he was very weak. The wound drained pus. In the afternoon 22½ c.c. of gentian violet diluted to 45 c.c. with sterile water was injected into a vein. The patient turned blue immediately, but there was no other reaction until an hour later, when he complained of dizziness and vomited. Three hours after the injection he was drowsy and apparently sinking. A subpectoral of 1500 c.c. was given. Two hours later he vomited blood-tinged fluid. 1500 c.c. more of saline was given subpectorally. He complained of having slipped down on the pillows and of having respiratory distress. He sank markedly, vomited small amounts from time to time, and died early the morning of April 6.

Discussion

BY DR. RICHARD C. CABOT

NOTES ON THE HISTORY

The "right side" is a bad term, but it probably means the right side of the abdomen.

Here we are not told the thing we most need to be told. If he was not living with his father, which is quite possible, as he was fifteen when the tuberculosis was active, it is of little or no importance that his father died of tuberculosis. We have not got to taking histories correctly in that respect.

I do not see how we can connect the events in the past history with any particular possibilities. The pain is pretty near the appendix but it is not at all like an appendix pain. It is more steady.

He has had three waves of pain and fever.

The fact that he is so constipated does not in the least mean that the disease has anything to do with the bowel. It might be a lymphoma of the bowel, which can come at twenty and give obstruction with pain. It could be a gall-bladder case I suppose, though I do not remember one with just this history. There has been no jaundice, but I should think it could be a gall-bladder. Kidney, gall-bladder, and intestine are the three things I should think of, and in that order.

NOTES ON THE PHYSICAL EXAMINATION

The word *emaciated* has some importance for us. Gall-stone disease of this degree of severity and this length of time does not cause emaciation. Nor does the only affection of the intestine that I can think of at this age. So I am influenced in favor of the kidney because I know two diseases which he could have in the kidney which will give emaciation.

When people lay stress on the notching of Hutchinson's teeth I am always suspicious that they are not Hutchinson's. It is a sloping in from the two sides towards the middle line rather than the notching that is the most important thing.

We can rule out the heart.

There is a good deal in the lungs, a good deal more than I had any idea we were going to find. If they had said nothing about râles I should have thought it might be that they had listened over the bronchus and thought they had abnormal breathing when they did not. But if those râles are what they are named to be, I cannot help thinking of tuberculosis in that lung. The bronchial breathing is at a spot exactly over the bronchus, so I take less interest in that. The dullness and crepitant râles are below that point, but nothing is given at the apex, so that I am in doubt. I should like to know what the X-ray and sputum would show.

The high immovable diaphragm might mean something below or above the diaphragm; probably something below.

They are thinking a little of an Argyll-Robertson pupil, suggested by his teeth. But I do not think we have anything important here.

What can the clonus possibly have to do with anything that we are thinking of?

A Physician: Metastasis in the spinal column or along it.

Dr. Cabot: Yes. It might be malignant disease with metastases in the lung and others pressing on the spinal roots or in the spinal cord itself.

A Physician: Have you ever seen tabes dorsalis with congenital syphilis?

Dr. Cabot: I think we do see it. I know we have paresis in hereditary syphilis, and do not see why we should not have hereditary tabes.

What else can give us this combination of lung, possibly kidney, and spinal column?

A Physician: Tuberculosis.

Dr. Cabot: He might have tuberculosis of the spinal column or in the vertebrae with some pressure so as to give us this clonus. Tuberculosis and malignant disease can be in lung, kidney and spine. Clonus is always pathological in my opinion. When we take hold of the foot and push it up it begins shaking and keeps on shaking as long as we hold it.

A Physician: Does that precede or follow the Babinski?

Dr. Cabot: It generally goes with a Babinski.

A Physician: Does one check the other? If you had one negative and the other positive, would you conclude both negative?

Dr. Cabot: They check each other very well. It is not clear that we have a Babinski here, but there is a questionable Oppenheim, which is almost the same thing.

It is an up-and-down temperature with big swings coming down to normal,—a septic type of temperature, though not very regular.

This is a tremendous polyuria.

Could this whole trouble be due to a staphylococcus aureus? Staphylococcus aureus is a common cause for kidney abscess. But then we can not easily account for the spinal and pulmonary signs.

Dr. Holmes: I think I agree with the statement made in the record so far as I can see from this plate. This is a fairly normal looking chest. The diaphragm seems to be all right on each side, the heart shadow not enlarged. There are rather bright lung fields, as though there might be some emphysema,—nothing very definite. The low stomach and sluggish peristalsis really do not mean anything except ptosis, which would go with the condition noted in the chest. There is a little sluggishness in the passage of the barium through the small bowel. I think in order to say that we have definite ileocecal stasis we have to have delay in the passage from the ileum to the cecum or a residue in the bowel after twenty-four hours. An eight or nine hour residue does not mean much. This is a perfectly normal cecum. We determine whether the cecum is movable by palpating under the fluoroscopic screen, and if the statement is made that it is movable it probably is. If the statement is that it is not movable it may or may not be. This whole picture is that of visceroptosis and nothing more.

Dr. Cabot: Isn't every normal colon "hammock type"?

Dr. Holmes: No, I should not say so.

Dr. Cabot: Do you think this is really abnormal?

Dr. Holmes: No. In that sense you are right. That does not mean an abnormality in the sense of disease. But I think people with long hammock colons are a little more likely to be constipated. It may interfere enough with their functions to mention, but I should not consider it a disease by any means.

The plates are taken on full inspiration. The second plate is the more interesting because we have the previous one showing a normal chest. Whatever this shows we know has taken place since the first was taken. The second was taken from behind and with the patient in the prone position.

Dr. Cabot: But that difference would not account for there being nothing in the first plate? Even if the first had been taken with the patient lying down and with the plate on the back, it would not have shown anything?

Dr. Holmes: No; there was apparently nothing there at that time. The high diaphragm means that the air is not entering the lung as well on that side. It does not necessarily mean that the diaphragm is high as we think of it clinically. It simply means that at full inspiration it does not go down. The rest of the chest is apparently normal. The heart is not displaced and there is no area of diminished density here which suggests cavity formation. Such a area as this we should have to interpret as consolidation in the lung. We cannot tell what the infection is. It could be any that would cause consolidation. It might be an abscess with the cavity filled with pus. That would appear to us like consolidation. We cannot differentiate a pneumonic process from an abscess unless we can demonstrate a cavity.

Dr. Cabot: Could it be metastasis from malignant disease?

Dr. Holmes: It is not likely. And it would be rather unlikely to be tuberculosis, on account of its position. It looks like an acute pneumonic process. There was no evidence of fluid at this time. The evidence in the X-ray plates would be the obliteration of the outline of the diaphragm and of the costophrenic angle. Usually in a good plate it is possible to get a good outline of the kidneys, the left better than the right, probably because there is more fat around the left kidney. Absence of the kidney outline may mean disease or that the patient breathed a little at the time the plate was taken, or a fault in technique. Absence of the outline of the right and visibility of the left is fairly normal. If we can see the right and cannot make out the left, it is a little more evidence of disease. We can make a guess as to the size and shape of the kidneys. The size varies with the distance of the tube and the size of the patient. Observations as to size are largely guesswork. We should have to have wide variations to say that there was anything pathological.

Here we have plates with the radiographic catheters in position. The most striking thing is the tremendous amount of gas in the colon. I presume it is the colon, because we do not expect to find gas in the small bowel. There is a suggestion of the lines that we see across the colon.

Dr. Cabot: Why didn't the renal pelvis fill up? That was a pyelograph I suppose?

Dr. Holmes: Yes. We can see that they have injected something. That may have something to do with the pathology, but it is more likely to be a fault in the technique.

The next plate is better. In this we see the shadow of the injected ureter and on the opposite side the catheter in the ureter and a small amount of injection. This ureter that we see definitely is the right. That does not necessarily mean that that is abnormal. I do not think that this ureter is particularly large. It varies a great deal with the amount of injection. The pelves of the kidneys are not well shown on either side. I should think the examination so far was not satisfactory.

Here is an opaque mixture fallen back into the bladder so that they have a good injection of the bladder and not of the kidney. For the interpretation of a pyelograph we have to depend largely on the man who does it. It is difficult to make a diagnosis from the X-ray alone. We want a consultation with the urologist who actually does the injection.

We found no evidence of stones. So that from what evidence we have by X-ray the variations are the high position of the diaphragm on the right side, probably due to the process in the lung, and definite evidence of a pathological process in the right lower lobe which is to all appearances pneumonic.

Dr. Cabot: In the genito-urinary tract you do not find anything?

Dr. Holmes: No. But X-ray examination is not sufficient.

Dr. Cabot: Because of all these staphylococcus findings we have been speaking of I now believe that there is chronic sepsis.

The pain and mass were never very definite. On the 31st we hear for the first time of cough, and probably this goes with what Dr. Holmes has told us,—that the lungs were all right in the beginning and that disease developed in them while he was here. Is there anything to show how much fluid they got out of the chest on the second of April?

Miss Painter: There is no record of the amount.

Dr. Cabot: The right kidney is the one we are suspicious of, of course. I think we have a good deal to accuse the right kidney of as well as the right lung.

Dr. Holmes has spoken about the matter of gas in the colon, and we remember that the patient had a lot of constipation. My guess so far is that there is nothing wrong with the colon other than the effects of his infected kidney and lung, which are perfectly capable of causing all this constipation.

Where did they cut the hole? Did they operate on his lung or his kidney?

A Physician: On his kidney.

Dr. Cabot: I think that they went in with the idea of a staphylococcus kidney accompanied by a staphylococcus infection of the lung, without any connection that I can see with the spinal symptoms, which I believe we have to think of as something quite separate. We did have here once a staphylococcus phlegmon along the spinal column, but I do not remember these changes in reflexes. I should say their diagnosis was an infected kidney of the type that I spoke of as the staphylococcus aureus kidney, with or without a perinephritic abscess and a lung infection.

PRELIMINARY DIAGNOSIS

Pyonephrosis.

CYSTOSCOPY MARCH TWENTY-NINTH

Under local anesthesia the cystoscope passed into the bladder without difficulty. The bladder was washed out with a reasonably clear return. Upon removing the obturator a large amount of very thick pus was expelled, so thick that it was difficult to empty the bladder. Origin of pus not determined. It was impossible to clean it out at this time, therefore the patient was put on constant drainage, to be done again later.

Further Discussion

Dr. Cabot: The origin of the pus was not determined, but I will bet that it came from the right kidney.

PRELIMINARY DIAGNOSIS

Aponeurosis, right.

CYSTOSCOPY APRIL THIRD

Bladder and mucous membrane very much inflamed. Bladder contained a large amount of thick pus. Both ureters were catheterized without obstruction. There was a rapid flow of clear normal looking urine from the left kidney and a very small quantity of cloudy fluid from the right kidney. The catheter could be made to drain. Renal function 1 c.c. phenolphthalein intravenously.—Appearance time left kidney five minutes, apparently good function from the left. Nothing from the right in fifteen minutes. Patient sent for pyelogram of right kidney.

Further Discussion

Dr. Cabot: The left kidney has a good function, but there is none on the right. We have evidence now of infection, pus and a destructive lesion in the right kidney, and I think it was for that that they operated upon him.

DR. CABOT'S PRE-OPERATIVE DIAGNOSIS

Acute staphylococcus infection of the kidney.
Perinephritic abscess.

PRE-OPERATIVE DIAGNOSIS

Perinephritic abscess.

OPERATION

Local novocain. Left oblique lumbar incision about three inches long. On opening the deep fascia there was a gush of pus; several ounces evacuated. Finger introduced into moderate sized cavity. Kidney not definitely felt. Patient's condition very poor. Nothing further attempted. Large rubber drainage tube. Wound partially closed with silk-worm gut sutures.

FURTHER DISCUSSION

DR. CABOT: I think their pre-operative diagnosis is perfectly correct.

They evacuated a perinephritic abscess which I think had burst out from the kidney itself,—the same thing that we have in the lung.

DIFFERENTIAL DIAGNOSIS

I do not know whether he died of gentian violet or of sepsis. I should judge he died of sepsis. He may have been given a little push over the edge by this treatment, but he certainly was very sick before. They speak of him as cachectic, emaciated: they record a lot of pus coming out from around the kidney. I think they were perfectly right in draining that abscess; but I think Dr. Richardson will say that there has been a lot of trouble in the kidney itself. I believe he also had a bronchopneumonia or an abscess—I do not know which—in the right lower lobe of his lung.

What causes his abnormal reflexes? I think we have to say something that has no presumable connection with the lung and kidney unless there is a staphylococcus phlegmon, which I have seen along the spine and which I should think might cause these symptoms. Otherwise we have to say it is a chronic disease of the spinal cord, possibly syphilitic.

DR. BINGER: Have you considered the possibility of multiple abscess?

DR. CABOT: You mean in the spinal cord? Of course they did not tap his cord, so we do not know about the meninges. I think I am probably prejudiced by a recent X-ray picture of a phlegmon in a staphylococcus case which Dr. Richardson necropsied. That is the only lesion that I have seen in these cases that had to do with the nervous system.

A PHYSICIAN: Why didn't he have more urinary symptoms?

DR. CABOT: His bladder was said to be injected in the second cystoscopy, and I do not know why he did not have more bladder symptoms. Before that the pus coming down from the kidney would not necessarily give him any particular trouble.

Let us sum up our diagnosis. He died of staphylococcus aureus septicemia, chronic, with local infection of the right kidney, destruction of a considerable portion of it, and abscesses burrowing outside the kidney to form a perinephric abscess. The only other localization we know about is in the lower lobe of the right lung, which is either an abscess or a bronchopneumonia, I cannot tell which. Then there is a question of some inflammation pressing on spinal nerve roots, possibly a phlegmon along the spine. Then we might speculate about other places where we know the staphylococcus often goes. It often goes into the myocardium. The subcutaneous tissues have not been affected. There is nothing to suggest any trouble in the brain. He may have had an acute malignant endocarditis, but that is not suggested by anything in our examination. That is as far as I can go.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Perinephritic abscess.
Bronchopneumonia.
Septicemia.

DR. RICHARD C. CABOT'S DIAGNOSIS

Septicemia, staphylococcus aureus.
Infection of the right kidney.
Perinephritic abscess.
Abscess of the lung or bronchopneumonia?
Phlegmon along the spine?

ANATOMICAL DIAGNOSIS

1. *Primary fatal lesion*

Perinephritic abscess.
Abscesses of right kidney involving the pelvis and the liver.

2. *Secondary or terminal lesions*

Thrombosis of right renal vein.
Purulent ureteritis, right.
Cystitis.
Abscess of prostate with extension into prostatic urethra, retroperitoneal tissues and peritoneum.
Fibrinopurulent peritonitis.
Septic infarcts and abscesses of lungs.
Fibrinopurulent pleuritis.
Soft hyperplastic spleen with infarcts.

3. *Historical landmarks*

Operation wound.
Slight chronic pleuritis.
Hemorrhagic area in mucosa of cardia.

DR. RICHARDSON: A well developed, poorly nourished white man. We were not permitted to examine the head. The skin and mucous membranes were pale. Beneath the pectoral were brown-red spots, and in the left cubital space small streaks of gentian violet.

The abdomen was slightly distended, the wall yielding.

There was a small amount of subcutaneous fat. The muscles were thin and pale. The peritoneal cavity contained 500 c.c. of thin purulent fluid, and the peritoneum was coated with fibrinopurulent exudate,—frank peritonitis. The appendix and esophagus were negative. The clinical record speaks about the vomiting of blood. In the cardia of the stomach was a large hemorrhagic area with spots where the tissue was a little necrotic but with no evidence of perforation. These hemorrhagic areas occur not infrequently with sepsis from streptococcus or staphylococcus, and grade all the way from superficial hemorrhagic areas to areas of necrosis and possible perforation. The small intestine was a little distended, otherwise negative. The large intestine, in the region of the cecum and transverse colon distended, elsewhere negative, and on section the distended portions were negative. The mesenteric and retroperitoneal glands were negative.

Dr. Cabot: Did you trace the origin of this peritonitis?

Dr. Richardson: Yes, the kidney abscesses and abscess of the prostate.

The anterior margin of the liver was at the costal border in the right mammary line. The inferior surface of the liver bulged down underneath, so that portions of the liver were quite a bit below the costal border on the right. The diaphragm on the right was at the fourth rib, on the left at the fifth rib.

There was 500 c.c. of cloudy fluid and fibrin on each side. There were a few old adhesions on each side. The trachea, bronchi, bronchial glands were negative.

The lung tissue was pale to dark reddish with bloody fluid in the region of the lower lobes. Scattered over the pleura were smaller and larger blackish red areas which were the outer surfaces of septic infarcts, some of which had gone on to abscess formation.

The pericardium was negative. The heart weighed 285 grams, with a good myocardium. The circulatory apparatus generally was negative except for thrombosis of the right renal vein. The portal vein and radicles were negative.

The liver weighed 2200 grams. That is slightly enlarged. The tissue generally was negative, but where the bulge was it was in close connection with the right kidney, and the liver here showed abscesses. In the right perinephric tissues there was a large collection of pus and the tissues here were generally pus-infiltrated.

The gall-bladder, bile-ducts, pancreas, duct of Wirsung were negative. The spleen weighed 381 grams, moderately enlarged. There were two small accessory spleens. The tissue was soft, mushy, and in several places there were a few sharply defined recent infarcts.

The left kidney weighed 255 grams. There was some hypertrophy. The kidney was all right except that on the surface there were three abscesses about one mm. across. The right kidney was, as I have said, bound to the liver, and stripping back the pus-infiltrated perinephric tissues revealed a kidney riddled with abscesses and containing a great amount of pus. In the inflammatory regions between the right kidney and the liver the pus had burrowed into the liver. The ureter on the left side was negative; on the right little if any dilated, the wall a little thickened. It contained pus, and where the right ureter opened into the bladder there was a patch of cystitis. The opening was rather small.

The prostate showed no definite enlargement. At the upper part of the prostatic urethra there was an opening and this opening communicated with an abscess in the left lobe of the prostate. The seminal vesicles and testes were negative.

The organism found all through was the staphylococcus.

Dr. Cabot: He got a very bad staphylococcus infection and it went pretty much all over him as we thought it would.

CASE 10362

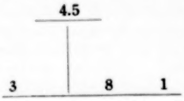
An unmarried American teacher of twenty-seven entered May 19 complaining of tiredness and restlessness.

F. H. Good.

P. H. Her general health had been excellent. She had had measles and varicella. When she was ten she was in bed six weeks with "slow fever." No one else in the neighborhood had the same trouble. Her usual weight was 140 pounds, her present weight 117.

P. I. Three months before admission she began to tire more easily than usual and had to curtail her work. This condition seemed to grow worse. A month after its onset she had in addition hot flushes, palpitation and loss of weight. The hot flushes were very troublesome until she went to bed a month ago. Since that time they had given only slight trouble. The palpitation had been only occasional. Nervousness and restlessness gave little trouble for a month before she took to her bed, became very prominent symptoms for a week or two after she went to bed, but for the past two weeks had been getting better. She had been conscious of rapid pulse only occasionally, but had been told that the rate was very rapid. For the past four weeks she had been troubled a good deal with generalized pruritus. For three weeks she had had some headaches.

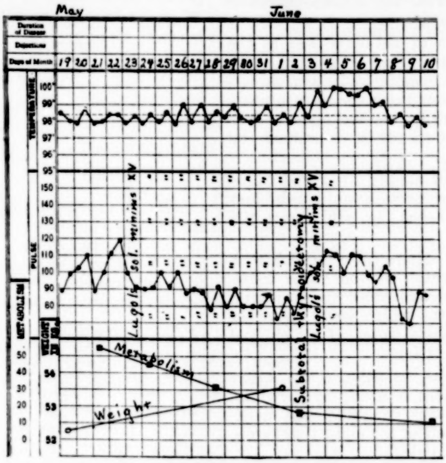
P. E. A thin, dark skinned, excitable, talkative young woman. Skin moist, with old pigmentation from previous acne on the back and face. No exophthalmos. Ready voluntary retraction of lids. Thyroid slightly enlarged, just visible. Thrill palpable and systolic bruit audible over pole. The gland rose above the sternum on deglutition and felt soft and mushy. No nodules. *Lungs* normal. Muscle sounds prominent over back. *Heart.* Apex impulse felt in the fifth and sixth spaces. Percussion measurements as shown in the diagram. Rapid, regular, slightly overactive. A_2 accentuated. Mitral first sound tended to be loud and reduplicated when she sat upright and blurred when she reclined, preceded by a soft roll and succeeded by a soft midsystolic murmur. Mitral second not so loud as mitral first, thumping in character, often followed by a third sound when she lay on her left side. *Electrocardiogram.* Sinoauricular tachycardia. Rate 120. Flat T_2. *Abdomen.* Liver edge felt at costal margin. *Rectal examination.* Sphincter relaxed. Soft fecal material in rectum. Fundus barely palpable against rectal wall. No tenderness in vaults. Cervix seemed to point slightly forward. *Pelvic examination* not done. *Extremities.* Slight tremor. *Pupils* and *reflexes* normal.



Before operation *T.* 97.2°-99.2°, *P.* 89-120 until May 26, then 73-93, *R.* normal; *urine,* amount not recorded, sp. gr. 1.020-1.022, cloudy at one of two examinations, 5-10 leucocytes per high power field at one; *blood,* hgb. 80%, leucocytes 4,100-11,400, polynuclears 48%, slight achromia. *Wassermann* negative. *Basal metabolism.* See chart. *X-rays, May 23.* No definite evidence of focal infection in the mouth. . . . Sinuses of normal size and density. No evidence of disease. . . . Outline, position and respiratory excursion of the diaphragm normal. Both lung fields clear. Nothing unusual in the appearance of the root shadows. Heart shadow a little prominent in the region of the pulmonary artery. Its measurements were within normal limits. *Throat consultation* May 22. No evidence of paralysis.

Orders. May 19. Russian oil ℥ i twice a day. Keep as quiet as possible. Digitalis gr. 1½ daily. May 23. Lugol's solution minims v t.i.d. Extra food between meals. May 28. Zinc oxid and lime water wash.* May 30. Bismuth subnitrate gr. x t. i. d.

June 2 operation was done. The patient reacted well after it. The pulse was somewhat rapid but of good quality. The condition was entirely satisfactory. There was considerable serous discharge. June 3 two rubber wicks were removed. June 5 the pulse and temperature began to come down (maximum June 4, T. 100.1°, P. 115). That day the skin clips were removed. The wound healed well, with no infection. June 7 a throat consultant reported that the vocal cords approximated perfectly. She made an excellent convalescence and was discharged June 10.



Discussion

BY DR. EDWARD P. RICHARDSON

This patient presents the rapid development of general symptoms pointing to no particular system of the body, characterized by an important fatiguability, nervous restlessness, rapid perceptible heart action, hot flushes, and loss of weight. It would suggest the question of some infection such as tuberculosis, metabolic disturbance, or possibly cardiac damage resulting from her "slow fever."

Physical examination is essentially negative aside from slight changes in the thyroid gland and some heart signs with tachycardia. There is nothing to bear out the diagnosis of infection. The temperature is essentially normal. The lungs are clear to examination and X-ray. There is no evidence of cardiac failure.

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*Zinc oxid ʒ ii, calamin ʒ i, phenol ʒ ss, lime water to make ℥ viii.

The thyroid changes suggest at once exophthalmic goiter. This diagnosis would adequately explain her symptoms, her loss of weight and rapid pulse. A systolic bruit and thrill over the superior thyroid vessels is usual in this condition, although it may occasionally occur in goiters without toxicity. A few further minor points on examination are confirmatory. A warm moist skin with capillary flush is important evidence of hyperthyroidism. A moist skin is here spoken of; its importance as a single observation is doubtful. Her excitability may be temperamental or it may be confirmatory. The same may be said of the slight tremor of the extremities. A persistent elevation of the basal metabolism in the absence of fever, leukemia, and evidence of pituitary hyperfunction confirms the diagnosis.

The heart signs I should consider functional, and not evidence of a mitral lesion.

While the diagnosis of exophthalmic goiter in well marked cases is obvious, in others it may be very difficult. Exophthalmos is often absent. The thyroid may not be enlarged. The patient may eat enough to prevent loss of weight. The resting pulse rate may not be increased. Tremor is very variable. The only striking evidence may be persistent elevation of the basal metabolic rate not otherwise explainable on complete and careful examination. With this as a lead, further minor points may be picked up from the history and careful examination. Among these I should give chief importance to muscular weakness and to a moist slightly flushed skin. The situation is particularly difficult when this concealed hyperthyroidism exists together with cardiac failure.

In this case the diagnosis was doubtless more obvious from examination than it is from the record. It was made a month before entrance, and the patient ordered to bed.

Pre-operative treatment. Digitalis was given on account of the tachycardia and cardiac signs. It would not seem to me important in this case. After four days' rest in bed, to allow the metabolic rate to reach a level, Lugol's solution of iodin and potassium iodid, as suggested by Plummer, was given in a dose of five minims three times a day. As seen from the chart, the metabolism two days after entrance was plus 53, on the day after starting Lugol's solution plus 47, on the fourth day after plus 32, and on the tenth day plus 16. There is also some decrease in the pulse rate, and a gain in weight of three pounds. (See chart.)

This represents a remission of the disease brought about by the use of iodin. It is a striking example, but not an isolated one. Means and Starr have shown that a comparable fall in metabolic rate occurred in about fifty per cent. of the cases in this hospital, and eighty per cent. showed a distinct benefit. In a few cases the rate remains practically unchanged. It represents a true improvement in the patient's condition which is not entirely to be measured by the metabolic rate. The patients appear less toxic, lose their nervous tension, and feel much improved. In many it becomes difficult to recognize the disease.

A few things about using iodin should be clearly recognized. Its effect is temporary, reaching a maximum in ten or twelve days. If it is continued the metabolism gradually rises, often reaching a level at the end of three weeks higher than before it was given. If the iodin is omitted the metabolism and pulse rise rapidly, and may be high at the end of forty-eight hours. After the iodin treatment has once been given it is more difficult to secure an effect the second time.

From these points it is obvious that iodin is not a treatment for exophthalmic goiter. The iodin effect should not be wasted. Iodin should not be given except as a definite part of a surgical program after the patient has consented to undergo operation. We have waited for the maximum effect before operating, usually ten to fourteen days.

PRE-OPERATIVE DIAGNOSIS

Exophthalmic goiter.

OPERATION

Gas-oxygen. Twelve cm. transverse cervical incision carried through the platysma and muscles on the right side divided transversely. Gland rather small. The anterior four-fifths of upper lobes removed. Gland was of uniform consistency. Hemorrhage slight. Two soft rubber drains placed into the depths of the cavity. Muscles closed with interrupted catgut and skin and platysma with Michel clips.

PATHOLOGICAL REPORT

Two lobes connected together by the isthmus and measuring 2 x 3 x 6 cm. each. On section they show firm reddish-gray surfaces without cysts.

Microscopic examination shows hyperplasia of the follicles and papillary proliferation of their lining epithelium. The stoma is vascular and infiltrated with new growth cells.

Follicular hyperplasia, toxic type.

FURTHER DISCUSSION

Surgically this patient represents a typical case of exophthalmic goiter, with characteristic pathological findings. The striking effect of iodin in these cases after operation is the lessening of the post-operative reaction. The patients on return to the ward, instead of being tense, nervous, restless, apprehensive, and difficult to control with drugs, are quiet and readily controlled with morphia. The pulse and temperature reactions are less severe. Even with the iodin these patients often go through operation with a rapid pulse, and are far from normal risks, but the danger of a severe post-operative thyroid reaction is much reduced. It is probable that the post-operative reaction is less severe even if the metabolic rate has not been affected by the iodin.

Before iodin came into use this patient would undoubtedly have had a preliminary test ligation of the superior thyroid arteries. The principle of graded operations in exophthalmic goiter (ligation, partial thyroidectomies) has been far too valuable a live-saving measure to be abandoned hastily. But it is certain that the use of iodin has made it possible to carry out safely a complete operation (subtotal thyroidectomy) in one stage far more frequently than before. This ensures a rapid detoxication, and saves the patient the time and the suffering necessarily a part of a graded series of operations.

POST-OPERATIVE COURSE

This represents a good convalescence, with very little post-operative reaction. The iodin was continued through the first four days after operation, so that any effect from its withdrawal would occur after the period of operative reaction. The metabolism on discharge of plus 12 was satisfactory, and will probably drop somewhat lower.

DIAGNOSIS

Exophthalmic goiter.

CASE 10363

A Scotch-American housewife of fifty-six entered November 30 for study of dyspnea, sleeplessness and palpitation.

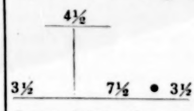
F. H. One sister died at fifty-eight of cerebral hemorrhage. Another sister had an attack of apoplexy but died of other causes. A third sister died of "lung trouble" at seventeen.

Habits. Good.

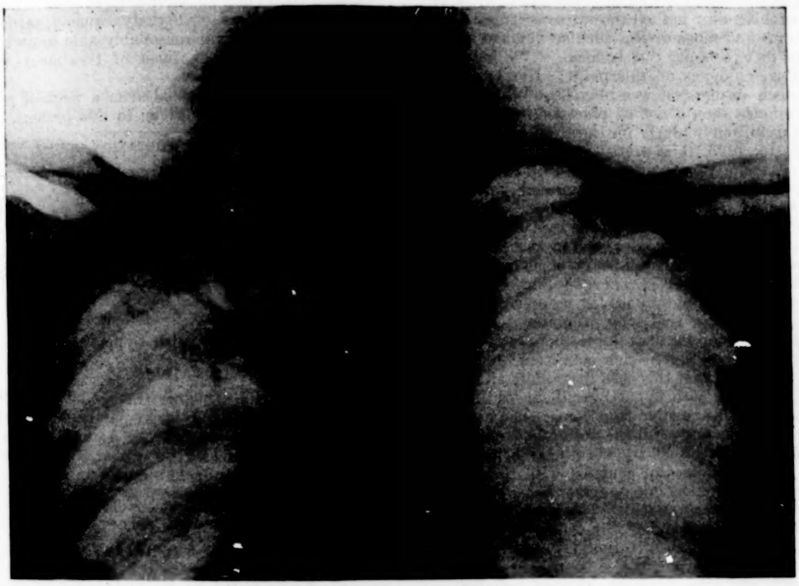
P. H. She had chickenpox, measles and whooping cough in childhood. Before the menopause, which occurred six years ago, she had headaches once a month before catamenia. She formerly had frequent sore throats. Five years before admission she had a severe attack of "streptococcus sore throat." She was very ill, was quarantined, and had a trained nurse. She had her tonsils and some teeth removed with some relief of the symptoms. A few weeks later she began to have rheumatism in her joints. At admission the joints were still large and stiff. For years she had had dyspnea and palpitation on exertion. Three years ago she was in bed in a hospital for ten weeks with an infected foot. Lately her eyes had smarted considerably. Rubbing gave relief. An oculist told her she had eye strain. Recently she had had some urgency of urination and incontinence if delayed.

P. I. Thirty years ago she noticed swelling in the right side of the neck. She took thyroid extract for two months with no relief. At the end of ten years the swelling was nearly as large as a baseball. She had no other symptoms except dyspnea, which she had always had from girlhood. Twenty years ago she had a partial thyroidectomy done at a hospital. A few weeks after the operation she noticed a few lumps in the left side of the neck. Her physician told her they would cause her trouble. She felt well and had no symptoms except dyspnea for eight years. Two years before admission she noticed that the lumps in her neck had begun to increase in size. They had steadily continued to do so. About this time the dyspnea became more marked and she noticed palpitation on slight exertion. For the past year she had had insomnia, lying awake until the early hours of the morning. She did not feel tired in spite of the loss of sleep. Her appetite was good, especially in the morning, when she was very hungry. She perspired easily. She enjoyed cold weather and felt comfortable when others were shivering. She had not lost weight, her present weight, 135 pounds, being her best.

P. E. A well nourished woman with no exophthalmos or "nervousness." Skin not abnormally warm or moist. There was an asymmetrical swelling of the isthmus and left lobe of the thyroid. These appeared as discrete tumors, freely movable, the lobe being about 5 by 3 cm. The trachea was displaced to the right. Over the situation of the right lobe was a vertical operative scar. Over the gland was heard a bruit. *Heart.* Apex impulse in the fifth space. Measurements as shown in the diagram. Action rapid. A blowing systolic murmur over the precordia, loudest at the apex. *B. P.* 165/75. *Lungs, abdomen* and *genitals* normal. *Extremities.* Fine tremor of extended fingers. Four finger joints showed typical fusiform swellings of chronic arthritis. Right elbow enlarged and limited in extension. Both knees and ankles slightly swollen. Slight pitting edema of the lower legs. *Pupils* and *reflexes* normal.



Before operation *T.* 97°-99°, *P.* 75-102, only three times above 90, *R.* normal; *urine,* amount not recorded, sp. gr. 1.020, 5-6 leucocytes (not a catheter specimen); *blood,* hgb. 85%, leucocytes 7,600, polynuclears 44%, lymphocytes 56%, reds and platelets normal. *Wassermann* not recorded. ***Basal metabolism*** +47. Pulse 115. ***Blood sugar. December 7,*** before operation 99 mgm. per 100 c.c., after operation 162 mgm. per 100 c.c., 4 p. m. sugar 100 mgm. December 8, a. m., 87 mgm. *X-ray.* To the left of the trachea just above the sternal notch was a shadow which was more dense than bone, about 3½ cm. in diameter, with a fairly sharply defined margin. The trachea was displaced to the right. Nothing pathological in the lung fields. No evidence of a mediastinal mass.



To the left of the trachea just above the sternal notch is a shadow more dense than bone, about 3½ cm. in diameter, with a fairly sharply defined margin. The trachea is displaced to the right. Nothing pathological in the lung fields. No evidence of a mediastinal mass.

December 7 operation was done. The patient made a good recovery from the operation. There was slight staining of the dressing. The next morning she complained of shortness of breath. The chest was clear. The heart was fibrillating. The blood pressure was 170/80. After December 10 the pulse was regular. The wound healed well. The patient made a satisfactory convalescence and was discharged relieved December 19.

DISCUSSION

BY DR. EDWARD P. RICHARDSON

The history and physical examination in this case show three factors of importance.

The first is the presence of a goiter. This has been of extremely slow development. It was present thirty years ago, and of relatively large size twenty years ago, when a mass nearly the size of a baseball was removed. The "lumps" present in the left side of the neck, noted shortly after the operation, were undoubtedly due to a remaining enlargement of the thyroid, and have persisted and recently increased in size. Whether the dyspnea which is stated to have persisted since girlhood and was unrelieved by operation was due to pressure on the trachea is uncertain. The operation may simply have removed a prominent right lobe and overlooked a deep-seated enlargement of the left lobe which was the actual cause of displacement or of pressure on the trachea. The nodular character of the thyroid enlargement noted on admission suggests that it is an adenomatous goiter. This diagnosis is strengthened by the calcification found on X-ray examination, since adenomata of the thyroid are prone to various degenerative changes.

A second factor is the repeated attacks of tonsillitis, the streptococcus sore throat, and the development of chronic joint changes. It would seem reasonable to assume that these conditions have a relation to one another.

A third factor is evidence suggesting gradual development of circulatory disturbance. The most important symptom is palpitation on slight exertion. Whether the increasing dyspnea is due to this factor or to greater pressure on the trachea can not be stated. On examination the enlargement of the heart and edema of the legs suggest impairment of cardiac function. There is also a moderate hypertension with a high pulse pressure.

The patient clearly has an adenomatous enlargement of the left lobe of the thyroid with calcareous degeneration causing displacement of the trachea to the right. The question is whether this goiter is the cause of constitutional symptoms and more or less cardiac damage or whether its effects are purely local. We have a little more evidence on this point. Her basal metabolism on one test was plus 47. While too much reliance should not be placed on a single observation, particularly on the first, which is apt to be too high, it is pretty good evidence that her metabolic rate is above normal. She shows fine tremor of the hands and probably has an increased tendency to perspiration. She has not lost weight, but her appetite is noted as good, and may have made up for increased caloric needs. The insomnia may or may not be evidence of increased nervous tension. The absence of exophthalmos is no evidence against toxicity from this type of goiter. A moderate hypertension with a high pulse pressure is a common finding in this condition.

I believe that this case represents an adenomatous goiter with hyperthyroidism leading to impairment of cardiac function. The circulatory changes belong with the goiter and not with the previous infections and chronic arthritic changes.

Certain points of contrast with the preceding case of exophthalmic goiter (Case 10362) should be particularly noted. The most important is the long duration of the goiter before the development of constitutional symptoms. In exophthalmic goiter the enlargement of the thyroid and the toxic symptoms usually occur within a short time of each other. A second point is the much less intense nervous symptoms. A third is the absence of eye changes, which rarely occur in adenomatous goiter with hyperthyroidism. A fourth is the nodular character of the goiter. Enlargement of the thyroid may be absent in exophthalmic goiter, and when present is a more or less symmetrical, firm, even, vascular enlargement of the whole gland, quite different as a rule from the irregular nodular goiter due to adenomata. While the average age at which symptoms develop in adenomatous goiter is greater than the age of occurrence of exophthalmic goiter, this can not be relied on in individual cases. The first evidence of constitutional disturbance noted in adenomatous goiter with hyperthyroidism may be cardiac failure.

The distinction between these two types of goiters with toxicity is of particular importance since Plummer has demonstrated the value of iodin as a preparation for operation in exophthalmic goiter. Iodin should not be given to patients with adenomatous goiter, since it may cause toxic symptoms to develop. When toxic symptoms have developed the use of iodin can not be recommended as treatment preliminary to operation.

Operation is indicated in this case for the following reasons: to remove a deep-seated left lobe of the thyroid causing displacement of the trachea, to get rid of a possible source of malignant disease, since cancer of the thyroid develops most commonly in adenomatous goiters, and to remove a source of toxicity causing cardiac damage. In a patient reasonably able to undergo operation no other form of treatment can be considered.

Operation was performed after a week of rest in bed. No iodin was given to this patient.

X-RAY INTERPRETATION

Appearance that of a large calcified mass in the region of the thyroid.

DR. RICHARDSON'S PRE-OPERATIVE DIAGNOSIS

Adenomatous goiter with hyperthyroidism, with some impairment of cardiac function.

PRE-OPERATIVE DIAGNOSIS

Adenomatous goiter with hyperthyroidism.

OPERATION

Gas-oxygen. Transverse incision. Muscles divided on the left. A large partly substernal left lobe was removed, leaving a small amount of the posterior part of the gland. The gland was adenomatous and contained one large calcified mass. Usual closure.

PATHOLOGICAL REPORT

A tumor the size of a tennis ball, apparently encapsulated. On section a large part of its substance was found to be filled with a solid bony hard tissue. The surrounding soft tissue contained small cysts with areas of hemorrhage.

Microscopic examination of the soft parts showed small follicles lined with pale staining epithelial cells. The stroma contained areas of hemorrhage and hyalin degeneration.

Adenoma with calcareous degeneration.

FURTHER DISCUSSION

The blood sugar changes show only the hyperglycemia which ordinarily follows anesthesia and operation.

The development of fibrillation following operation is not uncommon in patients with toxic goiters, and when the patients are otherwise in good condition it is usually more disturbing than serious. I should take this as further evidence of thyroid heart disease. Digitalis was given, and the condition passed off rapidly.

LATER NOTES

January 23, a month later, she reported that she had felt much better since the operation.

She was less nervous and had much less tremor of the hands. The dyspnea and palpitation were much better and she perspired less. She still had some insomnia. The scar was slightly adherent. The pulse was 84. Her friends told her that she was gaining weight.

FURTHER DISCUSSION

This post-operative note is too early and too incomplete to judge the effect of the operation, or to prove that the thyroid was the cause of the toxic and cardiac symptoms. It suggests definite benefit.

DIAGNOSIS

Adenoma of the thyroid with hyperthyroidism.

CURRENT LITERATURE

ABSTRACTORS

Gerardo M. Balboni
William B. Breed
Laurence D. Chapin
Austin W. Cheever
Randall Clifford
Ernest M. Daland
Horace Gray
Robert M. Green
John B. Hawes, 2nd
John S. Hodgson
Fred S. Hopkins
Chester M. Jones
Charles D. Lawrence
Tracy Mallory
Herman A. Osgood
Francis W. Palfrey
Edward H. Risley
George C. Shattuck
William H. Shedden
Warren R. Sisson
John B. Swift, Jr.
George G. Smith
W. T. Sherman Thorndike
Wilder Tileston
Henry R. Viets
Shields Warren
Bryant D. Wetherell

THREE THOUSAND CONSECUTIVE HERNIOTOMIES

COLEY, B. L. (*Annals of Surgery*, August, 1924).

Coley makes a statistical study based on 837 followed up cases with especial reference to recurrence, and presents the following summary:

1. Three thousand consecutive recent herniotomies have been classified according to age, sex, and type of hernia. Recurrence rates in each group have been compiled, based on 837 cases actually followed up.

2. Causes of recurrence may be arbitrarily divided into: (a) Those factors which are inherent in the individual patients, e. g., age, occupation, size and type of hernia, development of abdominal musculature, presence of adipose tissue, etc. The complete or partial absence of conjoined tendon is the main surgical problem that must be met. (b) Factors over which the surgeon has control, e. g., failure to recognize and dispose of hernial sac, wound infection, use of non-absorbable suture material, closure under tension, failure to support operative wound by proper dressings, and to forestall post-operative bronchitis and pneumonia with their attendant cough by appropriate preventative measures, allowing the patient out of bed too soon, etc. The exercise of more careful judgment in selecting cases for operation, basing the decision on a consideration of the patient's possible factors of failure on the one hand, and more attention to the details of operative technic and post-operative care on the other, will tend to reduce recurrence rates.

3. Recurrence in children should be a rare sequel to a properly performed operation. In 1191 operations, for all varieties of hernia, 300 of which were followed, we have been unable to find a single recurrence.

4. Follow-up examination of all cases is becoming the rule in most metropolitan clinics. It has been the rule in the Hospital for Ruptured and Crippled for thirty years. Recurrence rates not based upon a follow-up examination should be discounted.

5. Direct hernia is rare in the female and in children under fifteen years; three cases of the former and four of the latter (all males) were found in this series. The care of direct hernia represents a distinct problem. Many are best managed by some modification of the Bassini operation. A certain proportion present musculo-aponeurotic deficiencies which render the likelihood of a permanent cure slight, and, in this group, operation should be withheld. In the exercise of more careful judgment in selecting cases for operation, as Morrow has stated, lies the hope for better end-results, rather than in the adoption of new procedures based upon new principles. "Saddle-bag" or direct and indirect hernia should be considered as a variety of direct hernia and so treated. Removal of both sacs is essential. Our series of 280 direct hernia in the male adult, of which 85 cases have been followed, shows 14 recurrences, or 16.4 per cent. The "living suture" repair of Gallie has a wide usefulness in this variety of hernia and may become the method of choice.

6. There is lacking, thus far, any conclusive evidence that femoral hernia repair by the inguinal route is productive of better results than have been obtained by the simpler method.

7. Cases that have once recurred will be more apt to recur again, and the second recurrence may be larger and less amenable to truss treatment; therefore, the question of reoperation should be most carefully considered, and in every case it should not be advised. Thirteen per cent. of the 57 recurrences in this series had followed operation for previous recurrence. Gallie's operation, using "living sutures," has a distinct place in this group.

8. Consideration of the available tissues for repair should determine the type of operation to be used in each individual case. The use of a standardized technic for all cases is to be deprecated.

9. Local anesthesia has extended the field of operability to include the aged and those suffering from intercurrent disease which, in itself, contraindicates the use of a general anesthetic. It is strongly urged in cases of strangulated hernia in adults. However, as a routine, we favor, for adults, gas-oxygen with the addition of a small amount of ether if necessary; and for children, ether by drop method and open cone.

10. We subscribe to Morrow's statement that many surgeons consider the operative cure of hernia a simple procedure, and agree with him that it requires sound surgical judgment and considerable technical skill. [E. H. R.]

A PRELIMINARY STUDY OF THE BLOOD-PRESSURE FOLLOWING REDUCTION OF RENAL SUBSTANCE, WITH A NOTE ON SIMULTANEOUS CHANGES IN BLOOD-CHEMISTRY AND BLOOD-VOLUME

CASH, J. R. (*Johns Hopkins Hospital Bulletin*, June, 1924), presents an elaborate study on blood pressure following reduction of renal substance, with the following conclusions:

1. Reduction of renal tissue by excision and by the ligation of renal vessels has been followed, under certain conditions, in most cases, by a rise of both systolic and diastolic blood pressure, and in all cases by a rise of diastolic pressure averaging about 27 mm. Hg.

2. The conditions under which this change has occurred are:

a. That the total kidney substances be reduced at least 50 per cent.

b. That, in addition, a portion of kidney which has been deprived of its circulation be allowed to remain *in situ*.

3. Extensive necrosis of renal tissue alone, such as produced by widespread, bland infarction of one

kidney, or the ligation of one branch of a renal artery, has not proven sufficient, so far, to cause any rise of blood pressure. Complete excision of one kidney has also been unaccompanied by such a change.

4. The increase in arterial tension reaches its height within a few days following the completion of the operative procedures, after which time it tends to return to normal. The rapidity with which the change occurs seems to be roughly proportional in the amount of functioning renal tissue remaining.

5. After reduction of total kidney substance varying from 25 to 85 per cent. there has occurred no appreciable change in the amount of non-protein nitrogen or total chlorides of the blood. Where the reduction has exceeded 50 per cent. there has always been observed an impairment of the animal's ability to excrete phenolsulphonephthalein.

6. No constant changes have occurred in the volume of circulating blood as shown by the "brilliant vital red method."

Oedema has never been produced in these experiments.

[J. B. H.]

The Excretion Rate of Urea in the Toxemias of Pregnancy

Stander, Duncan and **Moses** (*Johns Hopkins Hospital Bulletin*, April, 1924) present their investigations as to the excretion rate of urea in the toxemias of pregnancy with the following conclusions:

1. We have been unable to obtain uniform results for the urea excretion rate by means of the index of Addis and Drury, which is $\frac{\text{Urea in 1 hour's urine}}{\text{Urea in 100 c.c. of blood.}}$ This we ascribe to the fact that the volume of urine excreted in one hour may be a very variable quantity.

2. The index of Stillman, Austin and Van Slyke, $K = \frac{D}{B\sqrt{VW}}$ gives fairly constant results. It manifests marked changes in the toxemias of pregnancy.

3. The index we have proposed, viz., $X = \frac{B \times T.N.}{D}$ affords in general more constant values than the index of Stillman, Austin and Van Slyke.

4. In the toxemias of pregnancy there is a marked disturbance in the value of X. The average value of X in our tables is as follows:

Normal non-pregnant	26.5
Normal pregnancy	16.4
Nephritic toxemia	22.8
Pre-eclamptic toxemia	26.2
True eclampsia	28.7

We are, as yet, not in a position to give definite values for the several types of toxemias, although our figures seem to indicate that X has its highest value in true eclampsia; while in nephritic toxemia the value is above that found in normal pregnancy; and in pre-eclamptic toxemia it is slightly higher than in the nephritic type.

[J. B. H.]

Primary "Sarcomatosis" of the Leptomeninges

Ford and **Firor** (*Johns Hopkins Hospital Bulletin*, March, 1924), in an article with excellent plates and bibliography, summarize their investigation of primary sarcomatosis of the leptomeninges as follows:

1. Four cases of so-called "sarcomatosis" of the leptomeninges are reported, and 28 cases from the literature are given in abstract. The clinical and pathological findings are described and analyzed.

2. The clinical picture is composed in varying proportions of signs of increased intracranial pressure, cranial nerve palsies, signs of meningeal irritation and of involvement of the cord and posterior spinal nerve roots.

3. The pathological basis is a diffuse invasion of the cerebral and spinal leptomeninges and the subarachnoid spaces by malignant neoplasms resembling sarcomas, which metastasize by way of the cerebrospinal fluid. These growths are of doubtful origin, but many are probably gliomas.

4. The diagnosis depends on the demonstration of "tumor" cells in the spinal fluid and the recognition of the clinical picture, which is variable but usually characteristic.

The After-Effects of the Late Toxemias of Pregnancy

Harris, J. W. (*Johns Hopkins Hospital Bulletin*, April, 1924), gives the following conclusions as a result of his investigations of the after-effects of the late toxemias of pregnancy:

1. While no recurrence of eclampsia occurred in our series, the fact that three of the 27 eclamptic patients who were seen one year later showed evidences of chronic nephritis indicates that the danger of permanent renal damage following eclampsia is not to be disregarded.

2. The danger of chronic nephritis following pre-eclamptic toxemia is unexpectedly great, as shown by the fact that 60 per cent. of our patients whose pregnancies were complicated by pre-eclamptic toxemia showed evidences of chronic renal disease when examined one year later.

3. We are unable to differentiate between the cases of pre-eclamptic toxemia which will be followed by chronic nephritis and those which will not result in permanent renal injury. It is possible that the duration of the symptoms of the toxemia before delivery may be an important factor.

4. If, in supposed cases of pre-eclamptic toxemia, the evidences of the toxemia persist for three weeks or more after delivery, the presumption is that the underlying disease is renal in origin.

It is planned to continue this investigation, supplementing it with more elaborate metabolic tests, especially with chemical studies of the blood and urine.

[J. B. H.]

The Induction of Splanchnic Analgesia

Labat, G. (*Annals of Surgery*, August, 1924).

The author presents a very thorough, detailed, experimental and clinical study of this subject. He reviews the literature briefly, furnishes many diagrams illustrating technic, and reports two cases operated on by this method. He goes into detail in regard to the preparation of the patient and the type of solution to use.

[E. H. R.]

The Jack-Knife Position for Patients After Operations for Abdominal Hernia

Watson, L. F. (*Annals of Surgery*, August, 1924).

The author believes that this position, with elevation at the shoulders and knees, reduces the hernial opening 25 to 50 per cent., facilitates the tying of the deep sutures, takes the strain off the stitches during the process of repair, gives a broad, firm union, and reduces the percentage of recurrences. This position should be maintained for five to ten days after operation and is usually to be advised for all patients following operation for inguinal, femoral, umbilical and ventral hernia.

[E. H. R.]

A STUDY OF THE PRESSURE HOUR-GLASS OR CASCADE STOMACH

RENDICH, R. A., and CONNORS, J. F. (*Surgery, Gynecology and Obstetrics*, June, 1924).

These authors present a paper on the natural and experimental production of this condition in case reports and x-ray findings, and draw the following conclusions:

1. The result of these experiments and the investigation of the not uncommon naturally produced cases prove that the deformity referred to as cascade stomach is the result of retrogastric pressure which causes forward displacement of the mobile portion of the vertical arm of the stomach from the firmly fixed cardia. The most common source of such pressure is the distended splenic flexure. This condition occurs independently of any organic lesion of the alimentary tract.
2. Since the radiographic appearance of the gastric deformity simulates the true hour-glass stomach and since the cause of this condition is pressure, it is suggested that the term pressure hour-glass stomach is more descriptive to those unacquainted with the fluoroscopic cascade effect.
3. With the uncomplicated case of pressure hour-glass stomach there occurs a definite group of symptoms characteristic of the condition.
4. The condition as described (excluding those cases which are the result of neoplasms) represents a definite clinical entity and the treatment should be directed to the underlying cause, that is, the colon, rather than the stomach.

[E. H. R.]

ADENOMYOMA OF THE RECTOVAGINAL SEPTUM

GOLDSTINE, M. T., and FOGELSON, S. J. (*Surgery, Gynecology and Obstetrics*, June, 1924).

These authors report four cases with pathological findings, and draw the following conclusions:

1. Haematomata or chocolate cysts of the endometrial type may develop anywhere outside of the uterus provided the normal ovarian function is present to act as a stimulus.
2. In all of these cases there was definite evidence of inflammation varying from the chronic inflammatory process seen in Case 1 to that seen in Case 4, in which newly formed granulation tissue was the predominant characteristic.
3. The growth in Case 1 apparently was not a transplant or outgrowth from the uterus but appeared to be a developmental rest because of its isolation and the ease with which it could be enucleated. Later the presence of plasma and mast cells indicated chronic inflammation.
4. These growths are not only very interesting from an etiological and histological standpoint but are of marked clinical significance. Their removal has relieved many distressing symptoms.
5. From the study of this group of cases together with others now under observation, we feel that the preponderance of evidence is greatly in favor of R. Meyer's etiological theory that these growths are of inflammatory origin, notwithstanding the fact that the presence of tissue in situations where it is not normally found may cause an aseptic inflammatory reaction.

[E. H. R.]

EXSANGUINATION—TRANSFUSION

ROBERTSON, L. B. (*Archives of Surgery*, July, 1924). Robertson describes a new therapeutic measure in the treatment of severe toxemia. This is especially effective in the toxemia resulting from severe burns. The author states that:

1. The replacement of a considerable portion of an infant's or young child's blood is an operative procedure which can be carried out in any well equipped hospital.
2. In cases of severe superficial burns, in which the symptoms indicate a probable fatal result, exsanguination-transfusion has reduced the mortality from 100 to 50 per cent. Before the introduction of this procedure, we had not seen cases of burn toxemia recover after the development of convulsions.
3. In erysipelas of the new-born, the mortality has been reduced from nearly 100 per cent. to 50 per cent., and in cases where the patients were from one month to twelve months of age, it has been reduced from 50 to 13 per cent.
4. In acute septic scarlet fever, the method seems to be of decided value in tiding the patient over the period of intense toxemia as well as in converting the case into one of the ordinary severe type.
5. In acute intestinal intoxication, the adoption of exsanguination-transfusion has reduced the mortality by 20 to 25 per cent.; this includes all cases admitted in an apparently moribund condition.
6. The results in septicemia are, on the whole, somewhat disappointing. Although, in some, the response to treatment was most dramatic, in others, the benefit seemed to be slight and only temporary. Especially was this the case in staphylococcus infection and in endocarditis.
7. The subjects chosen for exsanguination-transfusion were suffering from conditions in which the mortality is extremely high. Any procedure, therefore, however radical, which may serve to reduce the mortality by 25 to 50 per cent., is worthy of serious consideration.

[E. H. R.]

SUBLINGUAL FIBROMA

MORTON, J. J. (*Annals of Surgery*, August, 1924).

This author presents the history and findings in a case of chronic swelling involving the posterior sublingual region in a middle-aged man, which was treated for about one year by radiotherapy without apparent effect. The growth was then removed through a submental incision and a microscopic examination showed it to be a fibroma. No similar case has been found in the literature.

[E. H. R.]

ACUTE PANCREATITIS

EGGERS, C. (*Annals of Surgery*, August, 1924).

Eggers presents a very interesting article on this subject, with case reports in detail. The article is of particular value because of its conciseness.

[E. H. R.]

IMPETIGO CONTAGIOSA IN CHILDREN—ITS ETIOLOGY AND TREATMENT

SMITH AND BURKY (*Johns Hopkins Hospital Bulletin*, March, 1924) present the following conclusions in regard to their investigations of the etiology and treatment of impetigo contagiosa in children:

1. In a series of nine cases of impetigo contagiosa, hemolytic streptococci were isolated in six and staphylococcus aureus in three instances.
2. The streptococci are not of the same group, either serologically or culturally.
3. The staphylococci are not of the same serological group.
4. Ammoniated mercury ointment (one-third the usual strength) is a very effective treatment for the streptococcus but not for the staphylococcus cases.
5. Gentian violet (5 per cent.) is very effective in the treatment of both staphylococcus and streptococcus impetigo.

[J. B. H.]

Hepatitis, Following Cholecystogastrostomy

Lehman, E. P. (*Archives of Surgery*, July, 1924). This author presents an experimental study on dogs and draws the following conclusions:

1. Infection of the liver from an infected gall bladder can occur via the periductal lymphatics.
2. No one of three attempted variations of the mechanical plan of cholecystogastrostomy will prevent this recurrence.
3. A new operation for implanting the cystic duct into the stomach is surgically possible, although attended experimentally by a high mortality. It may prove of value in experimental studies.

[E. H. R.]

Ligation of the Pulmonary Artery of One Lung With and Without Resection of the Phrenic Nerve

Schlaepfer, K. (*Archives of Surgery*, July, 1924). Schlaepfer presents an experimental study on this subject. The article occupies sixty-nine pages, and the author draws the following conclusions from his extensive work:

"Sauerbruch's statement in his monumental work on thoracic surgery, that the expectations from ligation of the pulmonary artery were in vain as this procedure was helpful only when combined with other therapeutic measures, is at least premature. His personal experience seems to indicate that great clinical improvement can be obtained with this procedure. The two cases cited above from van Voornveld and Wilms demonstrate that in very advanced cases of unilateral lung tuberculosis, even with cavity formation (bronchiectasis or abscess), this procedure offers a bright outlook, encouraging us to go further.

"Ligations of the pulmonary artery combined with resection of the phrenic was in all our experiments in harmony with the statements of previous experimenters and of clinicians. The operation is without any noticeable shock. No change of rate of the heart beat or respiration was observed. A temporary elevation of the blood pressure in the remaining pulmonary artery, of short duration, with a simultaneous drop of pressure in the systemic circulation, were the main features of this operation. The one intact lung takes up the whole respiratory function and expands by pushing the mediastinum with the heart toward the operated side. With the gradual elevation of the paralysed diaphragm, the ligated, diseased side is compressed more and more, the secondary contraction of the fibrosing organ being thereby facilitated. Cases of unilateral malformation, with the mediastinum as the only one movable structure, prove that a great expansion of the one intact lung can take place without any chest deformity in spite of the displacement of mediastinum and diaphragm (Rohmer & Borchardt, Recklinghausen, Schuchardt).

"In any case of unilateral chronic inflammation of the lung, with evidence of a certain general resistance as manifested by fibrous tissue formation around the foci of infection, ligation of the pulmonary artery combined with resection of the phrenic nerve is very promising.

"This procedure, by putting the lung to a permanent rest by direct action, induces a beneficial fibrosis whereby the foci of infection are permanently controlled. Chronic unilateral tuberculosis heals without any auxiliary operation. Other forms of chronic inflammation of one lung, as abscess, bronchiectasis, mycosis of any kind, may necessitate a secondary eradicating procedure. Ligation of the pulmonary artery with resection of the phrenic nerve may prove to be the preliminary operation of choice in these cases. This operation, causing no greater shock to the emaciated patient, whose resistance is reduced by disease of long-standing, will be a safer measure preliminary to a second stage lobectomy or pneumectomy. Knowing the underlying anatomic and physiologic principles following ligation of one pulmonary artery without and with resection of the phrenic nerve, we must build up its applicability to clinical work. The few experiences recorded in the literature and our experimental findings urge further study of this procedure for the sake of a large group of patients with chronic advanced unilateral inflammatory lung conditions."

[E. H. R.]

The Treatment of Spastic Paralysis

Dowman, C. E., and **Hoke, M.** (*Archives of Surgery*, July, 1924). These authors have studied 132 cases in which a diagnosis of infantile cerebral paralysis was made, and they draw the following conclusions:

1. In the study of 132 cases of infantile cerebral paralysis, it seems that there were prenatal, natal, and postnatal factors which may have caused the condition.
2. The clinical pictures presented in cases of infantile cerebral paralysis are of three types; namely, that caused by pyramidal tract lesions, that caused by extrapyramidal tract lesions, and a mixed type in which both the pyramidal and extrapyramidal tracts are involved.
3. In selecting cases for operative treatment, only those cases which belong to the pyramidal tract group are suitable subjects.
4. The cases selected for treatment should have a minimum intellectual age of four years.
5. There are three important features in the treatment of the spastic child, namely, the relaxation of certain groups of muscles by means of neurectomy, the correction of fixed deformities and unstable feet by means of orthopedic operations, and the use of physical training in teaching the child to walk after these operative measures have been employed.
6. Eighteen cases have been treated in this manner and the results obtained seem to justify the opinion that this combination of methods of treatment is essential if the spastic child be given the maximum amount of useful function.

[E. H. R.]

The Influence of Intravenous Sodium Chloride on Intestinal Absorption and Peristalsis

Hughson and **Scarff** (*Johns Hopkins Hospital Bulletin*, July, 1924) discuss the influence of intravenous sodium chloride on intestinal absorption and peristalsis and reach the following conclusions:

1. Intravenous injection of 30 per cent. sodium chloride solution decreases the absorption rate of water from an isolated loop of duodenum and jejunum in cats.
2. The injection of this hypertonic solution furthermore causes active peristalsis, not only of the normal intestine but of loops of bowels which have been subjected to various experimental procedures designed to imitate paresis. This holds true so long as the blood supply remains intact.

[J. B. H.]

Youthful Goitre

Gold and **Orator**, from von Eiselsberg's surgical clinic at Vienna, reports (*Wien. klin. Woch.*, April 3, 1924) a morphological and clinical study of youthful goitre, which he believes partly due to iodine deficiency. He therefore recommends the prophylactic and therapeutic use of iodine in such cases.

[R. M. G.]

THE BOSTON
Medical and Surgical Journal

Established in 1828

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MEDICAL EDUCATION AND THE PRESS

IT is with pleasure that we call attention to the editorial in the *Boston Herald* of August 22, 1924, under the caption "Medical Education." We are especially gratified in knowing that the facts set forth have been presented to the great number of people who should know more about the aims of the medical profession. A very considerable proportion of the people have queer ideas about doctors; many do not seem to understand that only persons with trained intellects can comprehend and apply the scientific facts on which practice is based. A proportion of the people seem to feel that a doctor can readily discover the nature of an illness and if he has a retentive memory the name of the remedy is in the files of his mental card case and all that he has to do is to consult the index and employ the appropriate drug. Most fairly intelligent persons understand that medicine has outgrown the comparatively uncomplicated knowledge of two or three generations ago, and the accumulated scientific data has become so voluminous that the person with a well-endowed mind soon comes to appreciate the impossibility of acquiring a working knowledge of all of its phases. The people at large should be the ones most interested in sound medical teaching, for medicine in some of its fields is in intimate contact with the individual and the community, indeed is of vital importance to nearly everybody.

At the present time there is in this state an active organized effort to obstruct progress in the requirements for better educated physicians. Our medical societies and some state officials have, for the past thirty years, been actively at work trying to secure legal requirements for better qualified physicians. Beginning in 1894 the state gave recognition to all who had been in practice for a limited period. It delayed requiring even graduation from a medical school for about twenty years. Having given charters to medical schools which have never been able to show conformity to well-recognized standards, the state seems to have a tender regard for these institutions and will not require them to provide equipment and other teaching facilities which are regarded as essential in nearly all of the other states of the Union or to have standards for premedical education which would guarantee adequate preparation for this study.

We have often wondered why the daily press has taken so little interest in medical education. This editorial indicates an awakening. The statement that certain scandalous conditions relating to medical education were discovered "through newspaper enterprise" is true and we are glad to give great credit to the newspapers. Some of these facts had been published previously in medical journals but the daily papers never seemed to take much interest in the efforts of the profession to improve conditions until the stench had become so intense that newspapers regarded an exposure as good news material.

If the *Herald* really feels concern over the situation there is an opportunity right now to accomplish great good, because a recess committee of the Legislature is conducting an investigation relating to the work of the various professional boards. The report of this committee and the action of the Legislature will depend to a great extent on an interpretation of the wishes of the people. For some reason the medical profession has been unable to secure the endorsement of the people for the recommendations for better laws.

The newspapers can take up this controversy and educate the voters so that there will be less apathy and better understanding. Unfortunately the arguments employed by the opposition have been effective hitherto. They consist in an attack on the so-called "medical trust" and a plea for the poor boy. In the first place there is no medical trust and in the second place no well-qualified poor boy need despair of getting a finished medical education. If there is any one thing a poor boy should be saved from, it is the waste of money spent in a low-grade medical school.

Will the newspapers show constructive interest in the effort to raise the standards of medical practice in Massachusetts?

Therapeutic Column

Concerning the Swift-Ellis Method in the Treatment of Neurosyphilis

BY H. C. SOLOMON, M. D.

ONE of the great difficulties in getting therapeutic results in syphilis of the central nervous system is due to the inability of most substances introduced into the blood stream to penetrate into the central nervous system. Most drugs, including the heavy metals such as mercury, arsenic, etc., have difficulty in reaching spirochetes lying within the nervous structure or in the meninges.

However, there is another pathway besides that of the blood stream, namely, the cerebrospinal fluid, into which substances may be placed directly. Unfortunately, anti-syphilitic drugs when introduced into the cerebrospinal fluid have a very irritating effect and only very small doses can be given in this fashion, thus a maximum dose of arsphenamine to be given intraspinally is one-half of a milligram (0.0005). Even this exceedingly small dose may cause marked symptoms of irritation. This method has been used, however, many times and is still used by a number of the German and French workers.

Swift and Ellis developed a somewhat different technique for introducing arsphenamine into the cerebrospinal fluid. According to their method, blood is withdrawn from the patient about a half-hour after the intravenous injection of arsphenamine. The blood serum is separated, inactivated and then is ready for injection into the cerebrospinal fluid. Swift and Ellis claim that the serum contains a small amount of arsphenamine and in addition anti-bodies. According to their views, it has an advantage over the direct introduction of arsphenamine because of the presence of these anti-bodies and in addition is much less irritating. It must be remembered, however, that even the Swift-Ellis serum causes a considerable degree of irritation shown often by pain, rise in temperature, and a pleocytosis and meningeal symptoms.

Agreement is not universal as to the value of the Swift-Ellis method of subarachnoid therapy. There are those who are opposed to its use, claiming that the amount of arsphenamine contained is so small that it can have little value, that the anti-bodies are of theoretical significance only and their real presence never satisfactorily proved; and further that the flow of cerebrospinal fluid is probably from the nervous tissue into the subarachnoid space rather than the reverse, hence, substances introduced into the subarachnoid space would not be likely to reach the spirochetes lying within the tissue.

With differences of opinion regarding the value of the Swift-Ellis technique, it is not possible in a brief space to go into any detail. The best that can be done is to express the writer's own opinion, based upon a review of the literature and the personal experience of himself and colleagues. Cases of syphilis of the central nervous system which show no serological or clinical improvement, or at least very little, by the use of intravenous medication, are frequently relieved by intraspinal medication. Many cases of neurosyphilis having several years of intravenous medication without any change in the serology, have become negative with the use of intraspinal injections. Such experiences have thoroughly converted us to the value of this means of treatment. Symptomatic results of the most striking type are also frequently witnessed. Particularly in tabes does this method seem to have a very great influence both on the serology and upon the clinical course of the disease.

A merited criticism of intraspinal methods has been that substances introduced into the lumbar subarachnoid space do not tend to reach the brain but remain in the lumbar sac, thereby having little influence upon cerebral syphilis. By the introduction of serum through the cistern route this difficulty has been obviated.

Among the disadvantages of this method are the following:

1. The technique of preparation of the serum requires considerable time and a great deal of care as absolute asepsis is essential.
2. The operator must be proficient in performance of lumbar and cistern punctures.
3. It is painful at times and requires that the patient be laid up for twelve to twenty-four hours and occasionally longer, with the necessity of frequent repetitions.
4. There is a degree of danger connected with its use.

On the other hand, it is our opinion that it is of the utmost value in many cases of neurosyphilis which have not otherwise been successfully treated. In the average case of neurosyphilis, it may be considered advisable to try the effect of intravenous medication for a period. If satisfactory results are not obtained by this method, then the Swift-Ellis technique should be considered. Until some drug is produced that is much more effective in effecting therapeutic results in neurosyphilis than the present arsenicals and mercurials, we believe that subarachnoid injections must be relied upon in many cases. Of the various techniques for subarachnoid therapy we are personally of the opinion that the Swift-Ellis method is the most satisfactory.

MISCELLANY

THE ABRAMS' FIASCO

THE revolutionary Abrams technique for the diagnosis and treatment of disease which has swept the country is utterly without foundation in science.

Such is the verdict of the Scientific American Abrams Investigation Committee which for nearly a year has subjected the so-called electronic reactions of Abrams to a searching analysis. The practitioners of the Abrams method have declared it holds out a new hope for suffering humanity. Its enemies have dubbed it the greatest piece of Charlatanism in history. The movement has spread to all parts of the world and threatened to upset the entire theory of the medical profession.

There have been 44 different variations of the Abrams apparatus in this country alone. The Abrams method has had 3,500 practitioners; the other methods have each had a thousand more. The number of patients of all them has run into hundreds of thousands.

"The so-called electronic reactions of Abrams do not exist—at least objectively," declares the committee. "They are merely products of the Abrams practitioners' minds. These so-called reactions are without diagnostic value. And the Abrams oscilloclast, intended to restore the proper electronic conditions in the diseased or ailing body, is barren of real therapeutic value. The entire Abrams electronic technique is not worthy of serious attention in any of its numerous variations. At best, it is all an illusion. At worst, it is a colossal fraud.

"This electronic development has caused a sad state of affairs in this world of ours. It has given rise to all sorts of occultism in medicine. It has been a renaissance of the black magic of medieval times. It has given free reign to idiotic ideas—ideas which would formerly have been laughed out of existence at their very start. Suffering humanity has been made so many lavish promises of late that it is a sad disillusion now to go back to our conservative orthodox medicine, which, after all, remains our mainstay.

"When the day arrives for the practical application of such serious research work, we may be certain that it will have nothing in common with the passing electronic craze. In so far as concerns the apparatus employed, the methods of exploitation, or the qualifications of the men engaged in the work, it will be wholly without resemblance to the cults whose basic ideas and whose technique this Committee denounces."

Dr. Abrams died suddenly of pneumonia on January 13, in the midst of the "Scientific American" investigation. His death came on the eve of his scheduled appearance as the star witness in the trial of Dr. Mary Lecoque, an E. R. A. practitioner, at Jonesboro, Ark., charged with using the mails to defraud.—*The Scientific American.*

1925 SESSION OF THE AMERICAN CONGRESS ON INTERNAL MEDICINE

Dr. William Gerry Morgan and his convention committee have started in, at this early date, to make the biggest kind of a success of the 1925 session of the American Congress on Internal Medicine, which is to meet in Washington next May. Five thousand visiting physicians are expected in the national capital at that time, and the hotel and entertainment committees are even now whipping details into shape for the reception of the guests.

The 1925 convention is to be the most successful in the history of the Congress, declare the members of the various committees. There is no disputing this assertion, judging by the intensive manner in which the members are at work. The program now being planned is a comprehensive one which will include active participation by every physician in Washington—from the most noted down to the newest interne. It will include every department of the United States government health service, and the medical heads of the army, navy and Public Health Service are active members of the executive committee.

Dr. Morgan, president of the Congress, who is also general chairman of the convention committee, has just announced this revised committee personnel:

Executive—Dr. William Gerry Morgan, chairman; Admiral E. R. Stitt, General M. W. Ireland, General H. S. Cumming, Dr. Hubert Work, Dr. George M. Kober, Major William C. Borden, Dr. Phillip S. Roy, Dr. Noble P. Barnes, Dr. Harry C. Macatee.
Program—Dr. William A. White, honorary chairman; Dr. J. Russell Verbrycke, chairman; Captain A. W. Dunbar, U. S. N.; Colonel R. U. Patterson, U. S. A.; Assistant Surgeon-General E. C. Smith, U. S. P. H.; Dr. Frank Leech, Dr. William J. Mallory, Dr. J. Lawn Thompson.
Arrangements—Dr. E. Y. Davidson, chairman; Dr. John B. Nichols, Dr. Thomas A. Groover, Dr. D. V. Stuart, Dr. John M. Ladd.
Publicity—Dr. Wilfred M. Barton, chairman; Dr. James A. Gannon, Dr. A. B. Bennett, Dr. Benjamin F. Weems, Dr. B. M. Randolph.
Entertainment—Dr. Edgar A. Copeland, chairman; Dr. W. Cabell Moore, Dr. A. Camp Stanley, Dr. W. D. Tewksbury.
Hotels—Dr. C. B. Conklin, chairman; Dr. Ernest Mitchell, Dr. A. M. MacDonald, Dr. John A. Foote, Dr. E. G. Seibert.
Transportation—Dr. A. W. Boswell, chairman; Dr. Charles M. Beall, Dr. William Earl Clark, Dr. R. Lyman Sexton.
Ladies—Dr. A. Frances Foye, chairman; Dr. Ada R. Thomas, Dr. Louise Taylor Jones, Dr. Edith SeVille Coales.

QUARANTINE FOR PNEUMONIA

The city of Pittsburgh, Pennsylvania, has recently taken an advance step for the prevention of pneumonia by quarantining all cases of the disease. This is a radical departure from the former practice of merely requiring lobar pneumonia to be reported. Since April 1 of this year, all forms of the disease are required to be reported and all cases quarantined.

The purpose of this action as given in the announcement by the Pittsburgh health authorities is threefold. In the first place it is desired to prevent the spread of the disease by direct contact with other persons. In the next place it is desired to educate the public in regard to protection against pneumonia by avoiding contact with existing cases and by avoiding colds or influenza, which frequently lead to a complicating pneumonia. In the third place it is desired to obtain complete statistical data regarding the incidence of pneumonia and to have complete reports of cases to afford an opportunity for studies of environmental or other possible factors in relation to the cause of pneumonia.—*Connecticut Health Bulletin.*

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

DISEASES REPORTED WEEK ENDING AUGUST 23, 1924

Disease	*No. of Cases*	*Disease*	*No. of Cases*
Anterior poliomyelitis	7	Pneumonia, lobar	17
Chickenpox	10	Scarlet fever	66
Diphtheria	79	Septic sore throat	3
Dog-bite	5	Syphilis	35
Dysentery	2	Tetanus	2
Epidemic cerebrospinal meningitis	2	Suppurative conjunctivitis	10
Gonorrhea	122	Tuberculosis, pulmonary	81
Hookworm	1	Tuberculosis, other forms	9
Measles	40	Typhoid fever	13
Mumps	15	Whooping cough	55
Ophthalmia	22		

THE AMERICAN ROENTGEN RAY SOCIETY

This society is in session this week at the New Ocean House, Swampscott. The program covers four full days, September, 3, 4, 5 and 6.

Visitors are welcome to all scientific sessions.

President—Hollis E. Potter, M.D., Chicago.

Secretary—W. W. Watkins, M.D., Phoenix, Ariz.

The president-elect is George W. Holmes, M.D., of the Massachusetts General Hospital.

The program of the scientific sessions is as follows:

WEDNESDAY MORNING, SEPTEMBER 3

1. "A Preliminary Report on the Effect of X-Rays on Collagen." Dr. S. Burt Wolbach (by invitation), Boston, Mass. Discussion to be opened by Dr. Francis C. Wood, New York City.

2. "The Surgical Treatment of X-Ray Lesions." Dr. Charles A. Porter (by invitation), Boston, Mass. Discussion to be opened by Drs. S. Burt Wolbach, Boston, Mass., Percy Brown, New York City, and E. A. Codman, Boston, Mass.

3. "Electro Coagulation in the Treatment of Keratoses and Malignant Degeneration Following Radiodermatitis." Dr. George E. Pfahler, Philadelphia, Pa. Discussion to be opened by Drs. C. A. Porter, Boston, Mass., and C. Guy Lane, Boston, Mass.

4. "Can the Thymus Gland Be Stimulated by X-Rays?" Dr. Maurice Lenz (by invitation), New York City. Discussion to be opened by Dr. George W. Grier, Pittsburgh, Pa.

5. (a) "The Influence of High Voltage Irradiation on Salivary Secretion on Dogs." (b) "The Effect of Deep Radiation on the Sensitivity of Buccal Mucosa." Dr. James T. Case and Professor W. N. Boldyreff, Battle Creek, Mich. Discussion to be opened by Dr. William D. Witherbee, New York City.

WEDNESDAY AFTERNOON

1. "The Modern Conceptions of X-Radiation." William Duane, Ph.D., Sc.D. (by invitation), Boston, Mass. Discussion to be opened by H. O. Stearns, M.S., New Haven, Conn.

2. "A Precision Method for the Administration of X-Rays." Dr. G. Failla (by invitation), New York City. Discussion to be opened by Dr. Otto Glasser, Cleveland, Ohio, and Hugo Fricke, Ph.D., Cleveland, Ohio.

3. "The Relation Between Physiological Dominance and the Biological Effects of Rays." W. T. Bovie, M.S. (by invitation), Boston, Mass. Discussion to be opened by Dr. George E. Pfahler, Philadelphia, Pa., and Hugo Fricke, Ph.D., Cleveland, Ohio.

4. "Effect on Tumors of Radiation of Different Wave-Lengths." Dr. Francis C. Wood (by invitation), New York City. Discussion to be opened by Dr. G. Failla, New York City.

5. "The Effect of Roentgen Rays on the Adrenal Gland." Dr. Charles L. Martin, Fred T. Rogers, Ph. D., and N. F. Fisher, M.S., Dallas, Texas. Discussion to be opened by Dr. Ralph E. Herendeen, New York City.

6. "The Action of X-Rays on Corns." Dr. A. Howard Pirie, Montreal, P. Q. Discussion to be opened by Dr. Percy Brown, New York City.

WEDNESDAY EVENING

1. "The Nomenclature of Bone Sarcoma." Dr. E. A. Codman (by invitation), Boston, Mass. Registration of Bone Tumors.

THURSDAY MORNING

1. Dr. Francis H. Williams, Boston, Mass.

(a) Treatment by radium of lesions of four years' duration on the hands of an X-ray worker.

(b) A way of using radiations from radium in superficial lesions.

(c) A mechanical stereoscopic fluoroscope.

(d) Restoration and improvement of vision by radium treatment in opacity of the cornea.

A preliminary statement.

Discussion to be opened by Dr. Charles A. Pfender, Washington, D. C.

2. "X-Ray Treatment of Lymphomatous Conditions." Drs. William A. Evans and T. Leucutia, Detroit, Mich. Discussion to be opened by Dr. George R. Minot, Boston, Mass.

3. "Radiation and Resistance." Dr. C. H. Bunting (by invitation), Madison, Wis. Discussion to be opened by Dr. Henry K. Pancoast, Philadelphia, Pa.

4. "Final Results in the Treatment of Carcinoma of the Uterine Cervix at Radium Hemmet in Stockholm." Dr. James Heyman (by invitation), Stockholm, Sweden. Discussion to be opened by Dr. George A. Leland, Jr., Boston, Mass.

5. "Treatment of Carcinoma of the Esophagus by Radiation, with Report of Cases." Dr. D. Crosby Greene (by invitation), Boston, Mass. Discussion to be opened by Dr. Douglas Quick, New York City.

6. "Further Observations on the Treatment of Malignant Neoplasms by a Fractional X-Radiation Technique." Dr. James D. Morgan, Philadelphia, Pa. Discussion to be opened by Drs. J. M. Steiner, New York City, and Charles L. Martin, Dallas, Texas.

THURSDAY EVENING

The Caldwell Lecture. "Experiences of the Permanency of the Radium Cure in Malignant Tumors." Professor Gösta Forssell, Stockholm, Sweden.

FRIDAY MORNING

1. "Roentgenological Aspects of Brain Tumors." Meningioma (Dural Endothelioma). Drs. Merrill C. Sosman and Tracy Putnam, Boston, Mass.

2. "The Results of Roentgen Therapy on Brain Tumor." Dr. Percival Bailey (by invitation), Boston, Mass. Discussion of above papers to be opened by Dr. Harvey Cushing, Boston, Mass.

3. "A Superior Routine Technique in the Roentgenological Examination of the Nasal Accessory Sinuses, and the Value of Such Examination in the Diagnosis of Sinus Disease." Drs. Joseph Aspray and F. K. Herpel (by invitation), Spokane, Wash. Discussion to be opened by Dr. Alexander S. Macmillan, Boston, Mass.

4. "Examination with Lipiodol in Spinal Cord Tumors." Dr. W. Jason Mixter (by invitation), Boston, Mass. Discussion to be opened by Drs. Charles A. Waters, Baltimore, Md., and Howard E. Ruggles, San Francisco, Calif.

5. "Clinical Diagnosis of Common Sacro-iliac Joint Conditions." Dr. M. N. Smith-Petersen (by invitation), Boston, Mass. Discussion to be opened by Dr. Roland Hammond, Providence, R. I.

6. "Congenital Dilatation of Diploic Veins and Prominent Convolutional Markings Not Associated with Intra-cranial Disease." Dr. Leon T. LeWald, New York City. Discussion to be opened by Drs. Isaac Gerber, Providence, R. I., and Lawrence Reynolds, Detroit, Mich.

Friday Afternoon

1. "The Evolution of the X-Ray Shadows in Primary Carcinoma of the Bronchus." Dr. Ross Golden, New York City Discussion to be opened by Drs. William H. Stewart, New York City, and Frederick T. Lord, Boston, Mass.

2. "Further Observations on the Use of the X-Ray in Pertussis." Dr. Ralph D. Leonard, Boston, Mass. Discussion to be opened by Drs. H. Kennon Dunham, Cincinnati, Ohio, and W. Edward Chamberlain, San Francisco, Calif.

3. "Review of the Work of Gräff and Küpferle on Tuberculosis." Dr. Leopold Jaches, New York City. Discussion to be opened by Dr. Frederick T. Lord, Boston, Mass.

4. "The Nature and Differentiation of Pleural Annular Shadows." Dr. J. Burns Amberson (by invitation), Loomis, N. Y. Discussion to be opened by Drs. William A. Evans, Detroit, Mich., and Willis F. Manges, Philadelphia, Pa.

5. "A Further Study of the Roentgen Findings in Bronchiectasis." Dr. Alexander B. Moore, Rochester, Minn. Discussion to be opened by Dr. Frederick W. O'Brien, Boston, Mass.

Friday Evening, September 5

Annual Banquet—8 O'Clock

Toastmaster: Dr. Arthur C. Christie.

"Impressions as to the Value of the X-Ray in Internal Medicine." Dr. Richard C. Cabot, Boston, Mass.

"Pioneers in American Roentgenology." Dr. Preston M. Hickey, Ann Arbor, Mich.

Saturday Morning

1. "The Clinical Importance of Chronic Changes in the Appendix." Dr. Franklin W. White, Boston, Mass. Discussion to be opened by Dr. A. Howard Pirie, Montreal, P. Q.

2. "Roentgenologic Diagnosis of Disease of the Biliary Tract with the Aid of the Sodium Salt of Tetrabromphenolthalein." Drs. Russell D. Carman and V. S. Counsellor, Rochester, Minn. Discussion to be opened by Drs. William H. Stewart, New York City, and P. F. Butler, Boston, Mass.

3. "A Clinical Study of Redundant Colon." Dr. John L. Kantor, New York City. Discussion to be opened by Dr. Franklin W. White, Boston, Mass.

4. "Syphilis of the Stomach." Dr. Adelbert S. Merrill, Manchester, N. H. Discussion to be opened by Dr. Leon T. LeWald, New York City.

5. "Some Anomalies of the Kidney." Dr. Bernard H. Nichols, Cleveland, Ohio. Discussion to be opened by Dr. L. B. Morrison, Boston, Mass.

Saturday Afternoon

1. "Report of the Safety Committee." Dr. Henry K. Pancoast, Philadelphia, Pa.

2. "Abdominal Deep Therapy Injuries with Report of Necropsy Findings in a Fatal Case." Dr. Clarence F. Ball, Rutland, Vt. Discussion to be opened by Dr. Charles L. Martin, Dallas, Texas.

3. "A Comparison of the Roentgen Ray Output from Various Roentgen Ray Generators." Dr. W. Edward Chamberlain, San Francisco, Calif. Discussion to be opened by Professor George E. Clark, Boston, Mass.

4. "Physical Standards of Protection Against X-Ray Dangers." A. Mutscheller, Ph.D. (by invitation), New York City. Discussion to be opened by Dr. P. F. Butler, Boston, Mass.

5. "Immediate Metabolic Disturbances Following Deep X-Ray Therapy" (a preliminary report of an experimental and clinical study). Drs. Howard P. Doub, Frank W. Hartman and A. Bolliger, Ph.D., Detroit, Mich. Discussion to be opened by Dr. Merrill C. Sosman, Boston, Mass.

CORRESPONDENCE

MIDDLESEX COLLEGE OF MEDICINE AND SURGERY

85 Otis Street
Cambridge 41, Massachusetts

July 21, 1924.

To the Editor, *Boston Medical and Surgical Journal.*

Mr. Editor:

The puerile attack upon the Middlesex College of Medicine and Surgery contained in the last issue of your irreproachable journal is so gross an example of carping casuistry as scarcely to deserve the dignity of a reply. The article is conceived in poor taste and executed in worse form. It contains, however, certain indecent insinuations that may not pass unchallenged.

The Middlesex College of Medicine and Surgery has no connection in any way with Mr. Lazer, the publisher, or with the magazine *Progress.* We did not invoke, request, or subsidize this article. We knew nothing of this particular attack upon the American Medical Association, and had nothing to do with the reprint. We submit that you are, as an honorable editor, bound to publish our denial of your baseless and poisonous insinuation.

Aside from the exaggeration of the number of Middlesex graduates, which is, in itself, obvious proof that the story was written without our knowledge, the facts set forth in *Progress* are incontrovertible. With a rare sense of justice, this magazine has denounced a wrong being done in the State by the Medical Trust your journal so faithfully serves.

We should resent the tone of your editorial did we not realize how very difficult it must be for the type of mind that stereotypes the Boston Medical and Surgical Journal to appreciate the attitude of an independent organ which has a sufficient sense of democracy and fair play to champion the cause of Middlesex in its fight to protect the integrity of its existence from the aggression of medical trust control.

Very respectfully yours,
Horatio S. Card, M.D.,
President.

Editor's Note—"Irreproachable" is defined in Webster's Dictionary as follows: "Not reproachable; blameless." Our best answer is an analysis of Dr. Card's letter and reference to historical facts.

MEDICAL LIBERTY LEAGUE, INC.

Boston, Mass., July 11, 1924.

Editor, Boston Medical and Surgical Journal:

Dear Sir—Although you have been exceedingly indulgent in publishing my communications from time to time, I realize that another letter may be one too many. I address you again, therefore, with some diffidence.

In your editorial comment of July 10, on my letter of June 3, you say, referring to me: "We are in doubt as to his ability to appreciate the suffering endured by a smallpox patient, even though death does not ensue." May I comment briefly on this statement?

The fact that only 108 cases of smallpox resulted fatally in a series of 26,972 must be taken as fairly conclusive evidence that the suffering of these patients, on the average, was not severe.

Surely it is no sign of indifference to the fate of those who die in an outbreak of smallpox, to point out that the deaths were exceedingly few in comparison with deaths from measles and other diseases, which do not occasion equal alarm.

Here were 26,972 cases of smallpox in ten years in Michigan with 108 deaths, which seemed to have made a far deeper impression on the mind of our good friend Dr. Woodward than the 23,291 cases of measles with 214 deaths, which occurred in Massachusetts in a single year. Moreover these figures as to the morbidity and mortality of measles in Massachusetts for the year ended November 30, 1922, are but slightly different from those of each preceding year.

Apropos of the matter of comparing diseases one with another, the *British Medical Journal* for March 15, 1924, in reporting the Chadwick Lecture delivered by C. Killick Millard, medical officer of health of Leicester, on March 10, among other things says:

"It was necessary to preserve a sense of proportion. During 1923, scarlet fever caused 971 deaths, diphtheria 2764 deaths, measles 5200 deaths, influenza 8371 deaths, and smallpox only 7 deaths. It was true that the number of cases of smallpox last year had substantially increased but it was such an ultra-mild type that it could not be regarded as either a fatal or a disfiguring disease. Hitherto the disease had bred true to type, showing no tendency to change to the severe form."

Very truly yours,
HENRY D. NUNN, *General Counsel,*
Medical Liberty League, Inc.

EDITORIAL NOTE

Dr. Woodward's letter, which came in time to appear with Mr. Nunn's, is pertinent and appears below.

The opponents of vaccination seem to be indifferent to actual suffering of a few because in comparison with measles and other diseases more persons suffer at times than do those afflicted with smallpox. They also seem to be incapable of understanding that a little blaze may start a conflagration which may develop a great calamity. We believe that the prevention of the needless torture of even a few is worth while, the saving of a few lives is a definite responsibility, and the prevention of an epidemic endangering many lives is obligatory. Vaccination prevents suffering, disfigurement and death. It is an economic, as well as a health, measure, for the care of a smallpox epidemic is very expensive in the first instance and the presence of the disease is disturbing to business and general efficiency as a corollary.

If Mr. Nunn continues his present line of argument we can retire from the field and leave his contentions to be dealt with by persons of average intelligence.

Mr. Editor:

I did not expect to start a controversy on smallpox when I asked you to correct an inadvertently made arithmetical mistake of mine some time since, but I would like to say that I did not "overlook the fact" that there were but 108 deaths in 26,972 cases of smallpox in Michigan in eleven years.

Are we to understand that the antivaccinators, as represented by their eminent counsel, Mr. Henry D. Nunn, have decided that smallpox is a trivial disease anyhow and therefore deserves but little attention?

The opponents of vaccination shift their ground in a bewildering way. First, vaccination is a most dangerous procedure; then, it never did any good; and now, what's the use, only a few thousand people die of smallpox anyhow, so why worry?

Twenty-six thousand, nine hundred and seventy-two unnecessary cases of smallpox in Michigan in eleven years may not trouble Mr. Nunn, but they certainly caused trouble enough to the inhabitants of that State, even if but 108 of them died. By the way, Detroit is in Michigan, I believe, and there have been since January first enough cases of smallpox in that city to supply Massachusetts under its laws, even as now enforced, for 100 years.

Yet the antivaccinators try year after year to bring about the condition in which that city finds itself, with whole sections quarantined, nurses and physicians mobilized, and wholesale vaccination enforced; the door locked after the automobile is stolen. . . . And conditions in certain other places are still worse.

SAMUEL B. WOODWARD.

THE CADUCEUS

July 17, 1924.

Mr. Editor:

Some months ago you had considerable discussion in the JOURNAL about using the Caduceus as an exclusive emblem for doctors. Lately I received a circular from one of the instrument firms of Boston offering to sell the Caduceus for use on my automobile. This showed me that it was now not being exclusively distributed by the American Medical Association. I wrote the Secretary of that Association about it and the following reply (which is enclosed) may be of interest to some of your subscribers.

Very truly yours,
HILBERT F. DAY.

July 8, 1924.

My dear Dr. Day:

I have your letter of July 1st, to which is attached an advertisement of Thos. W. Reed Co. of Boston.

The automobile emblem which has been distributed by the American Medical Association has been sold only to legally registered physicians, but the sale has not been limited to members of the American Medical Association. It is not possible to secure a copyright for this emblem and the consequence is that a number of firms in different parts of the country have begun its manufacture and sale. The sale of this emblem has been attended with very considerable annoyance. There are many factors in the situation which seem to preclude any satisfactory solution. A number of societies have secured emblems with the names of the societies embossed on them.

To try to make the emblem for the exclusive use of members of the American Medical Association will not work, for the very simple reason that police officials will not recognize any emblem whose recognition would give advantages to the members of a single organization. Unfortunately, some of the firms who have been selling an emblem similar to that which was devised by the American Medical Association have not been very careful in their selection of customers. The consequence is that the emblems have fallen into the hands of undesirables. We have considered numerous schemes for providing a distinctive emblem, but the problems involved seem very difficult to solve. I hope, however, that we may yet devise a satisfactory arrangement.

Very sincerely yours,
Olin West, *Secretary*,
American Medical Association.

PLACEMENT WORK OF THE BOSTON TUBERCULOSIS ASSOCIATION

Mr. Editor:

For a long time I have felt that the problem of finding suitable occupations for Boston men and women discharged from our State and local sanatoria was one of the most important functions of the Boston Tuberculosis Association. It has seemed to me (and has been vividly impressed on my mind in many instances) that the work of our State sanatoria was not finished when the patient was discharged from the doors of the institution in good condition. Far too often the patient has gone back to his old occupation, although this manifestly was unsuited for him but was the the only job he had, with the result that he soon relapsed to a condition worse than before. It has likewise been clear to me that the task of finding suitable occupations for these men and women and of seeing that they were kept under proper medical supervision did not belong entirely to the State authorities, although they must do their share in it, but must be augmented and helped by some local means. At the present stage of our tuberculosis campaign in Massachusetts voluntary tuberculosis organizations are one of the means through which this supervision and detailed work should be carried on.

Accordingly, in August, 1923, the Boston Tuberculosis Association established a Placement Bureau to undertake this work, and secured as its field secretary Mrs. Anna M. Wright, who for many years had worked in the tuberculosis department at the Boston Dispensary under Dr. E. O. Otis of this city. The committee in charge consists of Dr. John B. Hawes, 2nd, chairman; Drs. N. K. Wood, Harry Linenthal, J. Danforth Taylor, Randall Clifford, Mr. Eliot Farley, and Miss Mary E. P. Lowney of the Rehabilitation Division of the State Department of Education.

Unfortunately, up to the present Mrs. Wright has been able to give only part time to the work of the Placement Committee, being engaged also in looking up the children discharged from the Prendergast Preventorium. Because of the pioneer nature of this project, at least as far as Boston is concerned, up to the present the greater part of Mrs. Wright's work has been more of the research type, such as collecting data on existing methods elsewhere in this country, studying the attitude of employers of labor toward the workmen handicapped by tuberculosis, and the educating of employers, superintendents, foremen and the employees themselves, as well as others interested in the welfare of the ex-consumptive. We are trying to develop—and are gradually developing—a system for placing and following up the wage-earner returning from a State sanatorium.

It at once became apparent that detailed, thorough and persistent medical supervision of the consumptive wage-earner was of the greatest importance, and it was likewise clear that this medical supervision should be centralized as much as possible and that the Out-Patient Department of the Boston Sanatorium was the best place for this. In rare instances, the family physician will attend to the medical supervision, but such cases will be comparatively few. We feel that unless the applicant for work is willing to keep under such supervision as we require his case should not be considered. We hope to make the Placement Bureau of the Boston Tuberculosis Association the stepping-stone between the end of sanatorium treatment and the beginning of economic rehabilitation. An essential part of our work for the future which we hope to develop will be some means whereby vocational training can be provided for applicants of initiative and intelligence in order to assure them employment adapted to their strength and ability. Among other essentials and not of least importance is the building up of a clientele of employers of labor in and about Boston who will coöperate with us in placing these handicapped men and women at some useful and suitable work, thereby helping to make the money which the State of Massachusetts has spent for their health and future welfare a sound and economic investment.

Dr. Sumner Remick, Director of the Division of Tuberculosis, State Department of Health, and the superintendents of our State sanatoria have been most helpful and are introducing a system of records whereby Mrs. Wright will be informed prior to the discharge of every patient who the superintendent feels is ready for work, not only concerning the patient's physical condition, but (of particular importance) his mentality, willingness to coöperate, general intelligence and social status, etc. With such information Mrs. Wright will be able to look up the man's home, and to interview his former employer, to find out the nature of his work and whether or not he can return to it. When this system is in working order, which I trust will be shortly, I feel that a great step in advance will have been made. Sooner or later I hope that each of our State sanatoria will introduce some form of prevocational training whereby patients can be tested out as to their ability, willingness to work, etc., before discharge from the institution.

Up to date 65 patients have been referred to Mrs. Wright, the largest number of whom came voluntarily; the second largest group has been referred to us by the Out-Patient Department of the Boston Sanatorium; a small group came from welfare agencies and friends and other miscellaneous sources. These applicants have been disposed of as follows: Fourteen were not considered because they were non-residents, non-tuberculous, needed hospital care, or for other good reasons. It is needless to state, however, that a large amount of time was expended on this group before the decision was reached regarding their non-placeability. No applicant has ever been turned away until after the most thorough and detailed investigation. Twelve were placed at work of some kind, six secured work through their own resources, three proved uncoöperative and were therefore dropped, one boy returned to the high school, and one withdrew his application. There are fifteen cases still pending. Both the non-tuberculous and non-resident cases were advised concerning employment through other agencies.

To the casual reader it may seem that so far at least a large amount of time and a very considerable amount of money has been spent in returning to work a very small group of men. The importance of this work, however, cannot be gauged by figures such as those here presented. When one considers that at a moderate estimate the disease tuberculosis is costing this country over $350,000,000 per year one realizes at once that any attempt to reduce this cost—much of which is a needless waste—is well worth while. On the other hand it has been repeatedly demonstrated that a comparatively small number of ex-patients who return to their work and who once more become wage-earning citizens will, in an amazingly short time, earn enough money not only to equal the cost spent by the State in their own individual care and maintenance while sick but also to make up for that spent in the care and main-

tenance of those patients who either died or were unable to go back to work of any kind.

For our own work, small as it is, the outlook is promising. Sanatorium superintendents, employers, training schools and employment agencies have been interested and coöperative. We believe that what has been accomplished and is being done in the rehabilitation of the discharged soldier can be accomplished with the discharged consumptive if the same methods are applied.

John B. Hawes, 2nd, M.D.,
President Boston Tuberculosis Association.

NEWS ITEMS

THE WORCESTER NORTH DISTRICT MEDICAL SOCIETY

The meeting of this society at the Burbank Hospital was held August 28, 1924.

Dr. Thos. J. O'Brien, Secretary of the Combined Committee on Legislation, and Dr. James S. Stone, another member of the Committee, discussed matters of importance to the Medical Profession.

H. J. Achard, for fourteen years associated with the *American Journal of Clinical Medicine* (the last nine years as managing editor), has accepted the position of managing editor of the *Endocrine Survey*.

Massachusetts Association of Assistant Physicians.—The annual outing of the Massachusetts Association of Assistant Physicians was held at Nantasket Beach, August 13, 1924. Dinner was served to 35 members and guests at the Nantasket Hotel, and was followed by a short business meeting. The following officers were elected for the ensuing year:

President, Dr. Neil A. Dayton, Wrentham State School, Wrentham, Mass.

Vice-President, Dr. Winfred Overholser, Medfield State Hospital, Medfield, Mass.

Secretary-Treasurer, **Dr. Harvey M.** Watki Department of **Mental Diseases, Room** 109, St House, Boston, Mass.

Winfred Overholser, *Secretary*.

REMOVALS

Dr. William J. Macdonald has removed from 619 Beacon St., Newton Centre (residence), to 24 Hamlin Road, Newton Centre. His office is at 270 Commonwealth Avenue as before.

Dr. William D. Reid now has an office at 491 Commonwealth Ave., Boston.

NOTICES

THE ANNUAL CONFERENCE OF SECRETARIES OF THE STATE MEDICAL ASSOCIATION AND EDITORS

Dr. Olin West, Secretary of the American Medical Association, has issued a notice stating that The American Medical Association will defray the expenses of the Secretaries of the State Societies and Editors of State Journals (who are not Secretaries of State Societies) attending the annual Conference to be held in Chicago November 21 and 22, 1924.

DEPARTMENT OF COMMERCE, WASHINGTON

PROVISIONAL BIRTH FIGURES: 1924

The Department of Commerce announces that provisional birth figures for the first three months of 1924 show lower birth rates than for the corresponding three months of 1923. For the states compared the birth rate for the first quarter of 1924 was 21.3 as compared with 22.7 for the first quarter of 1923. The highest rate for the quarter is 28.9 for North Carolina and the lowest 13.8 for Montana.

PROVISIONAL MORTALITY FIGURES: 1924

Washington, D. C., August 20, 1924.—The Department of Commerce announces that provisional figures for the first three months of 1924 show lower death rates than for the corresponding quarter of 1923. For the states compared the death rate for the three months was 12.6 in 1924 against 15 for the first three months of 1923.

Owing to differences in the sex and age distribution of the population, the crude death rates of states are not always comparable. Therefore, for purposes of comparison, it is customary to use adjusted rates based on what is known as the standard million population. If the ratios of the crude rates to the adjusted rates for 1920 be applied to the 1924 quarterly rates, the highest death rate for the first quarter of 1924 is that shown for Florida, 16.6, and the lowest that for Montana, 8.3.

RECENT DEATH

Dr. George Francis Deal, of Malden, died at his home, August 22, 1924, of pneumonia, aged 53.

He was born in East Boston, was educated in the public schools there, at the Boston Latin School and at Harvard Medical School, where he took his M. D. in 1893.

Succeeding to the medical practice in East Boston of an older brother, Dr. Edwin E. Deal, he moved later to Malden, where he had made his home for the past twenty-eight years. The brother died in Winchester in January, 1923. His wife died twenty-six years ago, and Dr. Deal retired from active practice ten years ago. He was a member of Hammett Lodge of Masons, past commander of F. E. Converse Lodge of Knights of Pythias, and a member of Malden Lodge of Elks and of the Massachusetts Medical Society.